

THE EVALUATION OF A MANAGEMENT DEVELOPMENT CENTRE

by

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DECLARATION

I declare that 'The Evaluation of a Management Development Centre' is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

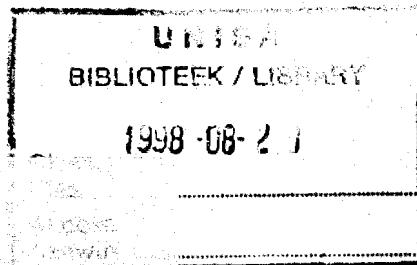
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SUMMARY \ ABSTRACT**THE EVALUATION OF A MANAGEMENT DEVELOPMENT CENTRE**

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SUBJECT : INDUSTRIAL PSYCHOLOGY

Management development is critical for effective job performance and in turn for the success of the organisation. The cost of this development “calls for” an evaluation of the increased performance actually achieved. The aim of this study was to evaluate the effects of a development centre on management “performance” in South Africa. Research on this aspect of the assessment centre technology is lacking.

The research was based on the Solomon Four-Group design. A sample of 111 managers at supervisory level was used. The job performance of participating managers was measured prior to attending the centre and three months after attendance.

Consistent with the available research findings, the results indicated a statistically significant increase in the critical dimensions measured in the experimental groups.

Consequently it was concluded that, in support of the hypothesis posed, the participation in a development centre contributes to an increase in managerial performance.

Key terms: development centres; assessment centres; management development; managerial performance; managerial-dimensions; managerial-competencies.

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CHAPTER ONE

STATEMENT OF THE PROBLEM

1.1. ORIENTATION

The assessment centre method can be defined as a procedure used by human resource management for evaluating personnel in terms of human attributes or abilities relevant to organisational effectiveness (Thornton, 1992).

The assessment centre methodology has been adapted to achieve various objectives with regard to human resource management decisions. Initially the assessment centre methodology was used specifically for selection purposes during World War II and has evolved into diverse applications today (Woodruffe, 1990). The various functions of the assessment centre technology include:

- recruitment, selection and placement
- training and development
- performance appraisal
- organisational development
- human resource planning
- promotion and transfer
- layoffs
- organisational and cultural change

To summarise the continuum of assessment centre technology, it would suffice to say that in the 1970s the purpose of the assessment centre was to seek information. The process included simulations, the role of the facilitator was that of observer, and the output was a “yes” or “no” decision for selection. During the 1980s the development assessment centre objective was selection and development, the process included simulations and feedback, the role of the facilitator was that of administrator and observer and the output included a skills profile, comprehensive feedback and a development plan.

In the 1990s the object of the learning centres is development information and behavioural change, the process is developmental feedback, coaching and training, the role of the observer is that of facilitator and mentor, and the output is a skills profile, behavioural change, a development plan and mentorship training. The learning development centre leads to improved performance because the learning process is feedback driven. Self-insight is facilitated by the comprehensive feedback.

The main differences then between an assessment centre, a development centre and a learning centre involved purpose, process and outcomes. Three broad categories of centre design emerged, according to a survey by Griffiths and Goodge (1994). At first-generation centres, which assess competencies, participant involvement is minimal and personal development is not attended to; at second-generation centres, feedback is provided during the centre and time is scheduled towards the end of the event for development planning, while at third-generation centres, participants are actively involved in generating their assessments, exercises are based on genuine and relevant work problems, and development plans are supported and monitored after the centre (Goodge, 1994). Development centres are diagnostic instruments that identify precise development needs by revealing the gap between the current abilities of participants and the standard of performance required in a particular job. This gap needs to be closed by providing coaching, development or training (Lee and Beard, 1994).

To be effective, assessment centres must become integrated into the total organisational system for dealing with the identification and development of management talent (Appelbaum, Kay and Shapiro, 1989).

The impact of assessment centres has been researched to a moderate degree (Moses and Byham, 1977 ; Lorenzo, 1984). However, only two studies could be found which focused on the fundamental issue of development centres and their impact on managerial performance (Fleenor, 1988 and Fischer, 1992).

There has been a rapid growth in development centre applications in recent years

(Goodge, 1994; Wood, Boyle & Fullerton, 1994) and this has led to new research questions concerning the impact of centres. Whether development centres achieve their objective can only be answered when on-the-job performance is measured. Fleenor (1988) evaluated the reaction, learning and result level of the Kirkpatrick model, while Fischer (1992) evaluated the behavioural level to establish whether an actual improvement in job performance resulted from attending the centre. These studies will be discussed in Chapter Four.

1.2. THE PURPOSE AND AIM OF THE STUDY

The need for accelerated development stems from the population ratio imbalance, discrepancies in educational opportunities of the past, political developments and lack of skills. This has led to the need for an innovative approach to the identification, training and development of potential.

Traditional long-term methods of management development are not particularly relevant in the South African context. Market changes and rising expectations will demand development centres committed to action through line management.

The main purpose of the development centre in this study is to diagnose strengths and weaknesses in work-related skills as a prelude to development. Individual participants learn new managerial skills while they are attending the centre. This occurs through self-insight, behaviour modelling and comprehensive feedback.

The development approach has also become necessary due to an increased focus on management and development. In the future more organisations will use development centres, as the methodology has potential for accelerated development. Assessment centres for development have been under-researched and their use has not been accompanied by systematic evaluation (Robertson & Rout, 1989; Hollenbeck, 1990). It is important to determine whether the application of assessment centre technology for management development is a viable option.

To contribute towards addressing this fundamental issue, the research question can be formulated as follows:

“Does the development centre contribute to an increase in managerial performance?”

The specific aim in terms of the literature survey is:

- to define management development, consider the need for management development, and examine models, theories and techniques of management development;
- to investigate the necessity and benefits of evaluation of managerial development; and
- to describe a development centre in terms of rationale, description, definition, aims and methodology.

The specific aim in terms of the empirical study is to obtain empirical evidence on whether participation in the developmentcentre contributes to an increase in managerial performance.

1.3. THE STRUCTURE AND LAYOUT OF THE CURRENT STUDY

To achieve the abovementioned aim, Chapter One serves to orientate the reader on where development centres fit into the assessment centre technology.

The need for research in this field is highlighted and the purpose of the study is clarified.

Chapter Two considers the meaning of the term “management development”, as well as the need for management development in the South African scenario. Models of training, learning theories and experiential training techniques are briefly covered, followed by training and development, specifically of managers.

In Chapter Three, the evaluation of managerial development, as well as the benefits and problems of evaluation are discussed. The focus is on Kirkpatrick’s model. The validity and reliability of assessment centres is encapsulated and an overview of various evaluation designs and the importance of utility analysis is included in this chapter.

Chapter Four contains a review of the relevant literature on development centres. A definition, rationale and theoretical foundations of development centres are covered.

A description of the methods used during the study and the results obtained follow in Chapters Five and Six respectively. Chapter Six augments the discussion of the results through the integration of the relevant theory and research. The final chapter, Chapter Seven comprises conclusions, limitations of the study, recommendations, future trends and further research.

CHAPTER TWO

MANAGEMENT DEVELOPMENT

2.1. WHAT IS MANAGEMENT DEVELOPMENT?

Miller (1991) proposes a working definition of development, "the identification of the skills and knowledge needed by managers for the organisation to meet its strategic objectives and the management of the processes necessary to produce them". He stresses that individuals are the only source of sustainable competitive advantage. Efforts must be focused on mobilising their commitment and encouraging self-development and lifetime learning.

Management development is defined by Wexley & Baldwin (1986) as the process through which individuals learn, grow and improve their abilities to perform professional management tasks. Management development is a term that covers a wide range of organisational and individual programmes, strategies and activities (Boehm, 1985). The primary focus in management development is on the managerial competencies and on the skills level required to enhance performance.

The trend in management development is a move towards a more integrated and focused approach, a continuous learning process targeted at the key issues and skills required by managers.

Intense competitive pressure, restructuring, integrating strategy and development, as well as the recognition of the importance of management development in striving for a competitive edge in the quality of management have led to an increasing demand for management development (Beer & Walton, 1987).

There is a fundamental shift in the nature of management. Managers need the appropriate attitudes and skills to be effective. There is also an increased emphasis on evaluating return on investment (Beddowes, 1994).

Management development is a major driver of change. There are closer links between management priorities and development initiatives. Companies are interested in development processes that are customised to their unique specifications. They want to embrace the development needs of individual managers within the context of the priorities of the organisation (Forster & Iles, 1994). This type of programme involves the use of diagnostic methods, small group work on real issues, individual projects, skilled facilitation, curriculum flexibility, extensive feedback and continuous tracking of progress both during and after the programme.

Tutors work with participants to clarify their learning priorities and agree to their personal development agenda for the programme. Challenging constructive feedback plays a key role in developing insight and competencies. Attention is paid to implementation and follow-up support opportunities.

Three vital skill areas are highlighted by Beddowes (1994):

- technology - to understand the full implications and potential of technology to transform business;
- talent - the management of talent is an important issue; and
- time - the speeding up of management processes.

Support mechanisms such as mentoring and coaching are needed in order to create a total development framework. Individuals must be encouraged to pursue and take responsibility for their own development. In this way, managers become truly empowered and instead of change driving development, development will drive change (Beddowes, 1994; Forster & Iles, 1994). ✓

The future emphasis will be on facilitating learning. Management development will increasingly be self-driven within an overall organisational culture of learning and development. Development centres will have to offer more professional diagnosis and counselling as well as a comprehensive portfolio of resources. ✓

2.1.2 WHY THE NEED FOR MANAGEMENT DEVELOPMENT?

Managers can and do have significant impact on organisational effectiveness and efficiency, and there is increased recognition of the importance of management development (Saari, Johnston, McLaughlin & Zimmerle, 1988).

The major reason for increased management development is to keep managers up to date on changing concepts/skills and a new corporate emphasis on executive/management training and education.

Management occupations are undergoing a massive revolution consistent with business conditions in a global marketplace and economy. The reasons for this are an increase in external competition, greater demands for productivity, changing business strategies, world-wide economic conditions, advances in information technology, legislative requirements and the changing nature of the workplace. Consequently, management training is a very rich application of a competency-based approach (Dubois, 1993; McMahon, 1992). ✓

2.1.3 THE SOUTH AFRICAN SCENARIO

South Africa is plagued by socio-political uncertainty and unhealthy economic trends that include high inflation, insignificant economic growth and increasing unemployment (Shaw & Human 1989; Archer, Bromberger, Nattrass & Oldham, 1990; Hudson-Bennett, 1994). Hudson-Bennett (1994) states that "South Africa needs to achieve economic growth of at least 5% per annum ... if it is to make meaningful inroads into the present unacceptable levels of unemployment". Black (1983) states that the skilled labour force must increase by 3.2% per annum to support an economic growth rate of five percent and thus, based on projected population statistics (Laburn, 1994), the majority of this skilled labour will have to come from the black sector. ✓?

However, legislation of the past, for example, the 1953 Bantu Education Act, the 1957 Extension of University Act, the Group Areas Act, the 1925 Wage Act, the 1953 Native Settlement of Dispute Act, and the Industrial Conciliation Act (to name but a few) all contributed directly and indirectly to the protection of whites and oppression of blacks in the labour market (Nattrass and Ardington, 1990). The above resulted in a grossly unfair education for blacks (Huntley, Siegfried & Sunter, 1989) and has gradually made for the encouragement of whites in skilled and managerial positions and of blacks into lower-status jobs. Currently the majority of blacks in the workforce fall into the semi-skilled and unskilled categories (Bendix, 1989). ✓

The focus of converting semi-educated blacks into productive and effective employees lies within the industrial sector (Gillingham, 1990). Bot, a researcher at the South African Institute of Race Relations, stated that only 10% of the South African workforce are being trained in technical fields, while 75% should be trained to meet requirements (Race Relations Survey, 1988 / 1989). Spence (1986) claims that the need for industry to be involved in education is beyond question, and it is imperative that the private sector should focus on technical education and training. ✓ ?

The literature emphasising the need to advance blacks into managerial positions is extensive, for example Zimbler, 1987; Mphahlele, 1981; Pruett, 1986; Human & Hofmeyer, 1985; Human 1990; however, it is suggested that there is also a need for organisations to focus on the masses that need to make the transition from, in many cases, primary school level to entry-level positions, as well as advancing those individuals who are performing job requirements competently to more advanced levels of work. ✓

Companies in the "new South Africa" will come under increasing pressure to identify, develop and promote black employees into supervisory and managerial positions (Charoux & Hurst, 1992; Charoux, Viviers & Fourie, 1996).

In line with the above thinking, the need for training within organisations must go beyond merely achieving organisational goals, and must allow for the individual ✓

trainees to achieve satisfaction and improvement (Glueck, 1974). Training and development is an area of activity where the goals of the organisation and individual can merge and grow simultaneously (Hinrichs, 1978). ✓

2.2. MODELS OF TRAINING

2.2.1 INDIVIDUAL TRAINING MODEL

The earliest model formulated to portray the training of individuals in crafts via apprenticeships is known as the individual training model. According to Bramley (1991), the individual has a desire to learn, and the learning which is provided results in conceptual, skill and attitudinal changes that are translated into work performance and consequently into improved organisational effectiveness. The focus is on the individual and the process is one of encouraging the individual to learn in an environment that simulates the work setting. ✓

2.2.2 INCREASED EFFECTIVENESS MODEL

The increased effectiveness model requires a definition of desirable changes in effectiveness in terms of specific and measurable criteria. Aspects of the job situation other than the skills of the individual will be considered and it may be that changing some of these will achieve the desired improvements without training (Bramley, 1991). If training is deemed necessary, it is given, and improved performance is linked to specific performance of the job. ✓

2.2.3 SEQUENTIAL MODEL

Nadler (1983) refers to a systems approach to training that accords with the model Bramley (1991) presents as a systematic cycle. A training need is identified, which is translated into training objectives. Appropriate programmes are either selected or designed, and then conducted. The evaluation of the training is against the training objectives and training programmes.

2.2.4 OPEN SYSTEMS APPROACH

According to Glueck (1974), the training function is not an isolated entity but is affected by factors within as well as beyond the boundaries of the organisation. Open systems theory stresses an holistic point of view, viewing entities as “interconnecting wholes” that are never static but constantly changing (Barrett & Bershon, 1976). Katz & Kahn (1980) stress the need to employ an open systems approach to cater for the mutually interacting variables and feedback loops that influence both organisation and individual behaviour in interaction with the organisation and their respective environments.

2.2.5 ORGANISATIONAL CHANGE MODEL

Bramley (1991) refers to a model that regards training as a way of enhancing organisational effectiveness. The theme of altering the way in which individuals work remains the same but within this model, the altered behaviours are embedded in the organisational context.

It is apparent from the above training models that the individual is the prime variable in the training process, and a need therefore exists briefly to examine the ability of trainees to benefit from the training effort.

2.3. THEORIES OF LEARNING

Learning theorists have progressed to a stage of development at which it is clear that the choice of the proper learning variable cannot be based on random option. Learning variables interact with the training environment.

The primary concern is which design best helps the trainee to learn appropriate principles for application in transfer situations and which design best avoids potential negative-transfer effects (Goldstein, 1986).

Learning is a lifelong process in which experience leads to changes within the individual. It can be defined as self-development through self-activity. Learning means change, which may be uncomfortable for many and causes concern and resistance.

It is worthwhile to recognise the contribution of learning theories when considering management development. Each of the theories emphasises different aspects of the learning process - each has much to offer when designing development programmes. They serve as guides for the design of programmes that match targeted training needs.

Bandura's social learning theory states that people who have a strong sense of self-efficacy focus their attention and effort on the demands of the situation. They see obstacles as challenges. Active participation that leads to accomplishments increases self-efficacy in a training programme. Once ability is increased, self-assurance develops.

Latham (1988) stresses that significant others must be taught to recognise and reinforce desired change. Participants need to be taught strategies for coping more effectively in a hostile environment.

Noe (1986) highlights four conditions for learning. Trainees must believe that the assessment of their strengths and weaknesses is accurate, they must believe that they can master the training content and that mastery is related to the attainment of desired outcomes, they must value effective performance, and they must view their work setting as providing the necessary resources to perform the job well.

Burke & Day (1986) applied meta-analysis procedures to 70 managerial training studies. They note that the methods of behavioural modelling, sensitivity training, lecture with discussion and either role playing or practice and multiple techniques are highly likely to lead to positive training results at least at a minimum level. The results suggest that managerial behaviour modelling is a sound method for improving learning across situations as measured by subjective learning criteria. This is consistent with Latham's as well as Bandura's findings.

Researchers need to improve their reports evaluating organisational interventions to ensure that cumulative analyses of the effectiveness of managerial training can be investigated.

The results of Burke & Day's meta-analysis indicate that the various methods of managerial training are on average moderately effective in improving learning and job performance. Even small effects of less than one half of one standard deviation have been shown through utility analysis to lead to a substantial economic impact on the organisation (Hunter & Schmidt, 1983).

Knowles (1985) notes that adults learn differently from children. The term "androgogy" refers to the learning techniques applied to the field of human resource development. Knowles stresses the importance of participants' motivation to learn, the need to be self-directing and learning from experience. Case studies and role-play techniques simulate realistic problems in the job situation and ensure the transfer of learning.

Action learning is useful in development centres because it is a process. Experiential learning is defined as "the process that links education, work and personal development" (Kolb, 1984). This learning arises from the first-hand experience of the learner. Action learning differs from other approaches in that the focus is on the individual and his or her learning and achievements, the focus is on a real work-centred project and working with a set adviser skilled in process work and in facilitating learning (Weinstein, 1995).

Kolb's experiential learning theory suggests that learning is a cyclical process. Managers first learn from concrete experiences, then from observing and reflecting and then they derive meaning and generalisations that are tested in practice (Eastburn, 1987; Camp, Blanchard & Huszycz, 1986).

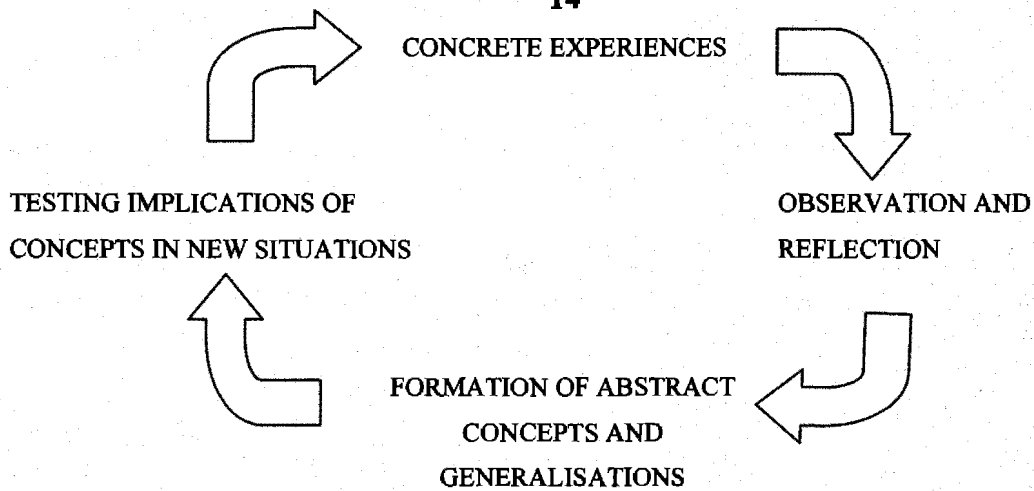


FIGURE 1. THE KOLB CYCLE

Measured against the above, the development centres would seem to constitute a remarkable learning process for participants. The concrete experience is provided by multiple simulations on which reflection takes place during the centre and in the feedback session. Concepts and generalisation are derived through feedback (in focusing on current skill deficiencies and strengths and in devising action plans and providing recommendations for development). Testing this back in the workplace occurs almost immediately (Fischer, 1992; Weinstein, 1995).

2.4. EXPERIENTIAL TRAINING TECHNIQUES

Active rather than passive processes promote more effective learning, especially for adult learners. Other assumptions of experiential techniques are that problem-centred learning is more enduring than theory-based learning, participants learn more when they share control over and responsibility for the learning process and learning is most effective when thought and action are integrated.

Simulation refers to the practice of providing an experience by “simulating basic processes and features of actual on-the-job behaviours” (Camp et al, 1986) to allow skills to be practised or principles to be discovered. Simulation can be viewed as an attempt to represent some characteristics or features of the real task and to incorporate

them into an effective training environment (Patrick, 1992). It involves the construction of a learning environment that is a faithful reflection of the work environment (Nadler, 1983). Employing experiential training techniques involves the learning being derived from experience, and thus it is more personal and individualised (Dennison & Kirk, 1990).

Actual or similar equipment can be used in an area remote from the regular work place to simulate work experiences (Maloney, 1986). In the design, in addition to factors already reviewed, attention must be paid to the equipment requiring the trainees to use

the same procedures and movements that are required for the actual equipment (Camp et al, 1986) as well as to the degree of psychological fidelity (McCormick & Ilgen, 1989; Patrick, 1992). Simulations provide a safe environment to experiment with new behaviours.

Business games provide simulations in which cognitive tasks can be performed as trainees are presented with "information regarding a situation and are asked to make input decisions" (Camp et al, 1986). These decisions are then critiqued (McCormick & Ilgen, 1989), or in the case of computer-assisted games, the system provides feedback regarding the input decisions that were made. The games not only provide the trainees with experience in cognitive tasks (Patrick, 1992), but the ensuing discussions allow trainees to articulate what they have learned from the experience, as well as being able to learn from the perspective of others (Camp et al, 1986).

The primary purpose of the in-basket technique is to develop decision-making skills, although other facets (such as report preparation) can be developed (Camp et al, 1986). The various memos, phone messages and other written stimuli are representative of the types of written material that can be expected back at the work place, and together with other background information supplied, trainees are expected to respond accordingly (Camp et al, 1986; Patrick, 1992). The technique hinges on the discussions centred on the process employed in the tasks, the responses to the material

as well as the discussion regarding the utilisation of the experience back at the work place (Camp et al, 1986).

Management is one of the few professions in which members attempt to achieve competence without formalised practice. Large-scale organisation simulations, "real-world" simulations, second-generation business games and in-basket simulations provide excellent practice fields. They provide a risk-free environment in which to experiment with ideas and strategies (Keys, Fulmer and Stumpf, 1996).

The case study method is one in which a written actual or hypothetical organisational situation (history, key elements and problems) is presented to a group of trainees for discussion and solution (Camp et al, 1986; McCormick & Ilgen, 1989). The primary purpose of the technique is to help the trainees analyse problems and assess the consequences of their decisions (McCormick & Ilgen, 1989), although a multitude of benefits can be derived. A variation of this technique is the incident method in which the trainees are only given an outline about a particular incident (Cascio, 1985). The trainees are required to extract further information from the trainer, as opposed to the information being supplied in a written format (Camp et al, 1986). At the end of the session all of the information is revealed and solutions are compared and discussed.

Role play is the name given to one particular type of simulation that focuses attention on the interaction of people with one another (Van Ments, 1989). In its simplest form, the idea of role play is that of asking someone to imagine they are either themselves or another person in a particular situation (Van Ments, 1989). Trainees then act out the parts, spontaneously supplying dialogue which they think is appropriate to their roles.

Role playing emphasises the functions performed by different people under various circumstances. The roles played are then reviewed and critiqued and further attempts at the roles can be made. The variations on role playing are numerous, and this technique can be used to train people in a wide range of topics and processes (Camp et al, 1986). However, it is the review that is essential for the technique to be effective

as “there is no doubt that ... it is the debriefing period which establishes the learning in the student’s mind” (Van Ments, 1989).

Behaviour modelling is based on social learning theory (Cascio, 1985) and the notion that “we learn most behaviours by observing models, practising our imitation of those models, and then repeating those behaviours that receive reinforcement” (Camp, 1986). The idea is for the trainees to observe an ideal model, imitate the behaviours and to implement those behaviours into their own behaviour repertoire. This technique addresses the inadequacies of many of the other techniques of training.

The T-group or sensitivity training approach evolved from the group dynamics concept of Kurt Lewin (Luthans, 1985). The premise behind the technique was to assist managers and executives in becoming more sensitive to the interpersonal and group-dynamics aspects of their work by personal participation in the group experience (Burnard, 1991). It involves an unstructured learning situation in which individuals meet in groups, focus on the “here-and-now” behaviour taking place within the group, and thus enhance their awareness of both themselves and of social processes (Cascio, 1985). Traditional sensitivity training is process- instead of task-orientated (Luthans, 1985).

Each of the above experiential techniques have strengths and weaknesses, thus giving further validation to the consideration of a carefully planned and designed training intervention process. In essence, the training programme and the instructional methodologies selected should achieve the objectives that were laid down, rendering the evaluation of training necessary.

2.5. TRAINING AND DEVELOPING MANAGERS

Companies have roughly the same potential access to resources, yet there are significant differences in results due to differences in the management of the organisations. Managers are ultimately responsible for the effectiveness of the

organisation. The components of a managerial development programme will reflect factors that have been shown to result in managerial success (Camp et al, 1986).

Mintzberg (1975) describes the roles of manager as interpersonal, informational and decisional. These roles form an integrated whole. Training must provide not only the knowledge / skill required for each of the roles, but also that required for their integration. Managers typically have little time for careful conceptualisation, diagnosis and planning and therefore these skills must be so ingrained as to be almost instinctive. Mintzberg's opinion is that managers' training ought to be tied to findings on what managers actually do, as opposed to normative models of effective managers. Lipshitz & Nevo (1992) warn against promoting a single set of attributes, irrespective of context.

Sayles (1979) discusses the unique demands made on managers due to the fact that they face contradictions on a day-to-day basis. They constantly have to meet challenges of new circumstances. Boundaries overlap, decisions must be reconsidered and constantly re-evaluated. Their environment is often illogical and irrational and they have to meet the unique demands of each new situation. Managers must be able to diagnose a situation at a glance, develop a response that is appropriate and consistent with organisational plans, implement it, and move on the next task (Camp et al, 1986).

A combination of training that focuses on what leaders do to be successful, and on the psychological process that make this "doing" a reality, is most appropriate for effecting change for managerial development (Latham, 1988).

In a review of research on managerial role motivation training, Miner (1988) argued that the intervening variable explaining the effectiveness of training programmes is the motivation to manage others. Miner emphasises the necessity as well as the techniques of dealing with ineffective performance in a subordinate.

Baldwin and Wexley (1986) stress the importance of transfer of training. Research is needed on the psychological and structural variables required to maintain what is learned in training on the job. Trainees should monitor their goal achievement as a way to get them to apply what they learned to the job. Baldwin & Wexley (1986) suggest a more eclectic orientation towards transfer by focusing on a number of factors affecting transfer, for example, conducive environment, the “buddy system”, “booster sessions” and “relapse prevention”. The job relevance of the training content is a critical factor affecting what is learned, retained and transferred to the work setting.

A model of managerial skill development put forward by Waters (1980) shows that traditional university education focuses on context skills and wisdom. This applied knowledge takes a relatively long time to learn. Internal training programmes on the other hand focus on practice skills and insight skills and are learned in a relatively short time. The ideal situation for management development programmes is that they are conceptual but not abstract, aimed at understanding and not expertise. They should be designed to make individuals aware of where they need to develop themselves and how these areas fit into the company’s needs. Training and development is suited to practice skills, some insight skills and some context skills (Camp et al, 1986). There is a diversity of approaches to management development. The most critical issue is that the technique adopted should match the norms and values of the organisation.

Stumpf & Mullen (1991) conducted research on management effectiveness and identified four elements that were frequently associated with managerial effectiveness:

- consistently applying a small number of key concepts;
- developing skill at thinking and acting strategically;
- taking advantage of knowing one’s personal style and its impact on others; and
- understanding the nature of strategic management processes.

These four elements - concepts, skills, personal style and process - need to be developed in proportion to each other for one's strategic leadership efforts to have most impact on the organisation. Understanding one's abilities and development needs is essential to managerial effectiveness.

The key concepts are mission, vision, objectives and goals and strategy. The two sets of skills identified are core competencies and strategic management skills. The core managerial competencies include motivating others, influencing skills, information sharing and collecting, communications skills, delegation, control, organising and planning (Stumpf and Mullen, 1991). The strategic management skills involve a manager's ability to know the business and markets, manage subunit rivalry, find and overcome threats, stay on strategy, be an entrepreneurial force and accommodate adversity (Stumpf and Mullen, 1991).

Colloff and Goodge (1990) stress that managers are expected to be entrepreneurs as well as efficient operators. Personal styles each have their relative benefits and weaknesses. An awareness of one's style will mean useful understanding of how it affects the way strategic issues are approached, how challenges are met, how others are dealt with and how they are likely to respond. The process of management is non-linear, ill-structured and variable. Understanding and accepting this is critical for influencing the process, exerting control and feeling comfortable. The use of strategic leadership concepts is primarily a heuristic and diagnostic course of action. Strategic leadership involves aspects of discovery and approaches can be altered. Different business situations place unequal demands on these four elements. The importance of understanding them and developing an appropriate balance has proved to be useful to managers in their work situations (Stumpf & Mullen, 1991).

Linear thinking is ineffective. The balance between competition and co-operation must be found. There is a need for collaboration.

The over-emphasis on competition makes looking good more important than being good. The resulting fear of not looking good is one of the greatest enemies of learning. To learn, we need to acknowledge that there is something we don't know and to perform activities that we're not good at (Kofman & Senge, 1993).

Hurley & Cunningham (1993) discuss self-managed learning, which combines the idea of learners working together in small groups on real-life problems, as in action learning, with the practice of managers taking responsibility and setting their own agenda. This approach helps to engender a climate and culture that supports learning and change.

Management educators have embraced a variety of "contingency approaches" related to leadership, organisational design, job design, motivation, decision making, conflict resolution and communications because different situations require different solutions. The focus of educational effectiveness in management should be on eventual job performance (McMahon, 1992).

Facilitating the learning experience may suggest a quasi-assessment centre approach. Measuring and monitoring performance to provide the learners with the feedback necessary for evaluating and guidance in coaching are essential for an optimal learning experience.

Management development practice may lag behind business needs. Many of our methods have questionable relevance to entrepreneurial jobs that require risk, innovation and business understanding. Management development has been geared to the long-term supply of talent and is unused to reacting swiftly to market circumstances (Colloff & Goodge, 1990). Becoming an effective manager is not merely a question of acquiring additional skills and knowledge - it involves a paradigm shift (Guerrier & Riley, 1992).

Managers should maintain a mind set that they should update and expand their competence on a continuous basis throughout their career, rather than feel that they have developmentally “arrived” on completion of an organisationally endorsed curriculum (Dubois, 1993).

The process of development must ensure competencies critical to business. Managers must understand the performance expected of them and determine their strengths and development needs. Managers are “ready” for training when they realise that they need more knowledge or skill; to learn they must be ready to acknowledge their weaknesses, they must assume personal responsibility for their own development and they must have the opportunity to practise new skills in the work place (Dakin and Gough, 1986).

Hogg (1993) found that there are similarities as well as differences between the valued managerial competencies in different European countries. Task-focused competency tends to be most valued and competencies focused on personal development least valued. This could have implications for these organisations in terms of limiting their capacity for learning and development. Successful companies of the future are those that recognise the importance of learning and adaptation to changing circumstances.

In conclusion, problems of managerial effectiveness have no general solutions; managerial effectiveness is best served by setting organisational learning systems to help managers reflect on their work and learn from one another managerial practices that are effective in their particular organisations (Lipshitz & Nevo, 1992). When considering the complexities of training and developing managers, it is easy to understand the trend towards development centres to achieve managerial effectiveness. The development centre is “organisationally specific” and offers the opportunity for evaluation, reflection and coaching.

The objective of management development is increased performance. Without evaluation thereof it cannot be assumed that it actually works (Harrison, 1989).

Before considering the development centre approach, an overview of the relevance of evaluation is required and this will be covered in the next chapter.

CHAPTER THREE

AN EVALUATION OF MANAGERIAL DEVELOPMENT

3.1 WHY EVALUATE?

Literature reviews reveal that training evaluation remains largely unaddressed by research (Storey, 1990) and management development relies on the trust and goodwill of top management rather than on actual results achieved (Carnevale and Schultz, 1990).

The following evaluation questions at the job performance and organisation levels must be answered:

- Have the employee competencies that most significantly contribute to achieving their job outputs been identified?
- Are participants requiring the competencies included in the intervention?
- Is the intervention contributing to improved job performance?
- What are the contributions of the intervention to the achievement of strategic organisation goals? (Dubois, 1993).

The evaluation is an indicator of success as well as a warning when corrections are needed.

The primary reason for measuring outcomes is to assess the utility of the intervention and to know whether the techniques used are efficient and cost effective. It is the evaluation that will provide feedback, not only to the organisation itself, but also for further needs analysis and training and development objectives.

A major impediment to management support for training and development may be the failure of managers to see how the intervention has a positive effect on a subordinate's behaviour with regard to the attainment of organisational or task objectives.

Seeing a positive behaviour change on the part of subordinates will result in training and development being taken more seriously by top management (Latham, 1988).

Training evaluation should provide:

- information about the processes that have occurred;
- the trainee's reaction to the training;
- the amount of learning that has occurred;
- the changes in job behaviour that have resulted from training; and
- the organisational outcomes that can be attributed to training (Camp et al, 1986).

From this information, the training department can determine the return on the training investment.

The purpose of evaluation is to provide information to the decision makers that they can have confidence in, and in this way the risk of making bad decisions can be reduced.

Professionals want to know whether their training efforts made a difference. Feedback is also needed to know what to keep and what to change.

3.2. THE BENEFITS OF EVALUATING MANAGERIAL DEVELOPMENT

The benefits of evaluation include the justification of financial resource allocation, the measurement of whether objectives have been achieved, the discrimination between the effectiveness of various developmental techniques, as well as the discrimination between developmental activities for different individuals (Hussey, 1988).

The return on the evaluation investment itself determines strengths, contributions and areas of improvement; it supplies information for decision-making purposes; and promotes the value of the HRD (Human Resource Department) service within the organisation (Dubois, 1993).

Improved employee performance is a key change factor in achieving organisational objectives. Evaluation results should be expressed in terms of the bottom line when possible, in order to justify the HRD function within the organisation.

3.3. PROCESS VERSUS OUTCOME EVALUATION

Evaluation can focus on outcomes (the results of training) or on the training process (the development and implementation of training). Both should be the focus of regular evaluation to ensure a certain standard of training. Close evaluation of the training process can often assist in analysing what went wrong if outcomes or results are not what they were expected to be. Using different methods of recording the process reduces individual bias and ensures the reliability and validity of evaluation. This detail makes it possible to improve the process within practical organisational constraints (Camp et al, 1986).

3.4. LEVELS OF MANAGEMENT TRAINING AND DEVELOPMENT EVALUATION

Kirkpatrick (1979) describes techniques used to evaluate training programmes. The steps may be summarised as:

- Reaction - participants must like a training programme to obtain maximum benefit from it (anonymous comment sheets are used).
- Learning - it is important to determine objectively the number of principles, facts and techniques understood and absorbed by participants (a “before-and-after” approach will ensure quantitative results that can be statistically analysed in terms of correlation).
- Behaviour - this is related to using principles and techniques on the job. Katz (1956, as quoted by Kirkpatrick, 1979) states: “If a person is going to change their job behaviour, five basic requirements must exist:

- ⇒ they must want to improve;
- ⇒ they must recognise their own weaknesses;
- ⇒ they must work in a permissive climate;
- ⇒ they must have some help from someone who is interested and skilled; and
- ⇒ they must have the opportunity to try out the new ideas.”

The transition between learning and changes in behaviour on the job is a vital issue. A systematic appraisal should be made of on-the-job performance on a before-and-after basis by the trainees’ superior, subordinates and peers. Statistical analysis should be used for comparison and a post-training appraisal three months later will add to the validity of the study. A control group should be used and the benefits of the programme must be made clear to top management.

- Results - e.g. reduction of costs, reduction of turnover and absenteeism, reduction of grievances, increase in quality of production, etc. It is difficult to evaluate certain programmes in terms of results due to contamination by other variables.

Kirkpatrick (1979) emphasises that the future of training programmes depends on the ability to evaluate and to use evaluation results.

3.5. A CRITICAL EVALUATION OF KIRKPATRICK’S MODEL

Alliger & Janak (1989) discuss three problematic assumptions of Kirkpatrick’s four “levels” of training evaluation criteria. They admit that Kirkpatrick’s model has had widespread and enduring popularity and that it clearly met a need. The field of industrial psychology has accepted this framework (Cascio, 1987).

The power of Kirkpatrick’s model is its simplicity and its ability to help people think about training evaluation criteria. It provides a vocabulary and rough taxonomy for criteria (Alliger & Janak, 1989).

However, the model may lead to misunderstandings and overgeneralisations due to the problematic assumptions on which it is based. The first assumption is that each succeeding level is more informative than the last. It is not clear that all training is meant to effect change at all four levels. The second assumption is that each level is caused by the previous level. This casual link is difficult to prove. We cannot assume that the former causes the latter. Feedback sustains the behaviour-results link. The third assumption is that each succeeding level is correlated with the previous level or that there is a "positive manifold" - all correlations among levels are positive. No positive relationship should be predicted. Evaluation studies of Kirkpatrick's levels have reported different effects of training for different levels.

Clement (1982) has stated that correlations that do not support the hierarchical model fail to do so because of noise from intervening variables such as motivation, context of transfer, trainees attitudes etc.

The measurement of different criteria on the same level could show different results. Behaviour learned might be differently displayed to, and evaluated by superiors, peers or subordinates.

Alliger & Janak point out that Kirkpatrick's model serves as a global heuristic for training evaluation. Kirkpatrick's levels are four generally accepted parts of evaluation.

To be effective and useful, evaluation must cover every element in the programme, beginning with programme design and continuing through on the job performance results.

The employee's ability to demonstrate competent performance in a planned learning situation does not guarantee the same performance level on the job. Kirkpatrick's third level of evaluation is an assessment of transfer of competence to the job. The employee's supervisor must support the implementation of the employee's changed performance. The work environment must support the application of the competencies (Dubois, 1993).

Contemporary organisations typically evaluate managers based on subjective measures of effectiveness that rely on observers' judgements of the managers' performance. The justification for this approach to evaluation is that it focuses on behaviours that managers need to perform to co-ordinate departmental activity, motivate employees and reach performance goals. Although some consultants are sceptical about the use of subjective measures, research indicates that such assessments are valid (Papa & Graham, 1991).

To assess changes in job performance, "self-and-others pre-and-post intervention performance assessment" can be used. Achievement measures of the accomplishment of action-plan objectives and a training impact assessment are other options.

A "self-and-others competency assessment" process is a technique that helps employees assess their strengths, identify their competency development needs and develop personal training plans to meet those needs. The critical elements of the instrument include the competencies that are taken from a competency model that the organisation has identified or researched for the targeted job. An analysis of the responses of employees, peers, supervisors and/or subordinates results in the identification of critical needs for growth relative to the competencies identified.

After the intervention the evaluation takes place again, usually a few months after the completion of items in the employee's personal plan.

The difference between each pair of pre- and post-intervention scores for each dimension (competency) reveals the perceived change in performance that occurred over the interval of time between the evaluations. The scores reflect the degree of growth or change that has occurred.

This type of data can be used for intervention evaluation purposes; however, the possibility that factors other than the competence-acquisition activities that were completed by the employees were responsible for any of the observed changes in job performance, must be ruled out (e.g. policy changes, changes in the way of doing the

work etc.). The result analysis will confirm or deny hypotheses about the overall effects of the intervention on job performance (Dubois, 1993).

This process is useful for measuring affective or “soft” competencies. Other techniques are more appropriate for assessing concrete knowledge of functional skills.

Another way of measuring a competence acquisition process is by tracking employees’ progress on the completion of any action plans for performance improvement that were developed during the intervention. An initial action plan should be developed in co-operation with the employee’s immediate supervisor. The action plans must have measurable and observable criteria for determining when the performance objectives have been achieved.

Verification that the performance objectives were achieved must usually be obtained from an employee’s supervisor. Using an action plan approach as an intervention assessment tool requires considerable advance planning by the evaluator (Dubois, 1993).

3.6. DISTORTIONS IN THE EVALUATION OF TRAINING

The measurement challenges and problematic areas inherent in studying the impact of processes in a dynamic organisation are numerous.

Long-term commitment to evaluation is critical. The evaluation principals must have a knowledge of the organisational context in which the evaluation processes, activities and results occur (Dubois, 1993).

Job behaviour improvement is affected by the lack of opportunities to apply new knowledge/skills, and the lack of similarity in environments between the training setting and the work place, making transfer of training more difficult.

3.7. THE CRITERIA

The evaluation process centres around two procedures, namely establishing measures of success (criteria) and using experimental and non-experimental designs to determine what changes have occurred during the training and transfer process. Designers of training programmes need to question the choice of measures against which they can determine the viability of their programme.

The environment often renders the collection of valid criteria difficult, and for this reason criteria must be carefully selected and evaluated so that a clear indication of the impact of the development centre can be obtained.

According to Goldstein (1986), the chosen criteria are judged relevant to the degree that the components required to succeed in the training intervention are the same as those required to succeed on the job. The degree of overlap between items established by the needs assessment and items in the criteria chosen establishes the relevance of the criteria. The term criteria refers to the measures of success used to evaluate the developmental intervention.

The “ultimate criterion” is what we would like to measure but cannot, so instead we measure intermediate criteria, which we infer to be related to the ultimate criterion. If these intermediate criteria are close to the ultimate criteria, the measure is likely to be valid. Relevancy, contamination and deficiency are important in developing valid criteria.

3.7.1 CRITERION RELEVANCY

Criterion relevancy is defined as the degree of overlap between the intermediate criterion and the ultimate criterion. The closer the relationship, the greater the relevancy. If the intermediate criterion correlates with other variables with which the ultimate criterion also correlates, the intermediate criterion can be said to be relevant. It is sometimes a matter of judgement in training practice, where the evaluator must

determine the degree to which changes in the ultimate criteria will be reflected in the intermediate criteria.

3.7.2 CRITERION CONTAMINATION

Criterion contamination pertains to extraneous elements present in the criteria, which result in the measure inaccurately representing the construct identified in the needs assessment. The existence of criterion contamination may lead to incorrect conclusions regarding the validity of the development centre. Examples of criterion contamination include opportunity bias (individuals may have differing opportunities for success, unrelated to the skills developed), group-characteristic bias (e.g. regulations that do not permit them to work at capacity level), and knowledge of performance on the development centre (judgement is biased in the transfer setting, for example, an individual who performed well at the centre would be evaluated well in the work place). This last problem is particularly relevant when subjective measures of performance, like rating scales, are used to determine capabilities, as is the case in this particular study.

3.7.3 CRITERION DEFICIENCY

Criterion deficiency occurs when the intermediate criterion has only some variables that correlate positively and other aspects of the ultimate criterion remain uncatered for. The criterion is still relevant, but inadequate (Camp, Blanchard & Huszczo, 1986).

Rather than looking at employee behaviour, the economists focus exclusively on performance outcome variables such as employment or earnings as criteria for evaluating training programmes. Such variables are highly contaminated and preclude meaningful conclusions (Latham, 1988).

The evaluator needs to ensure that the evaluation will serve some practical purpose by identifying the audience and determining what it needs to know and why it needs to

know it. A commitment to the measurement of certain criteria in a specified way should be established.

The criterion measures must meet two conditions. They must give reliable measurements (the same result would be obtained if the same thing were measured again under similar conditions) and the measurements must measure what they are intended to measure (validity).

3.8 CRITERION RELIABILITY

Criterion reliability refers to the consistency of the criterion measures. If the criteria are ratings of performance, and there is little agreement between two raters, then there is low reliability. Consistently different performance scores by the same individual at different times also reflect low consistency and therefore low reliability. Reliability is a necessary condition for stable criteria measures, but it does not replace the need for relevant criteria.

According to Cascio (1987), it is important to distinguish internal from external criteria. Internal criteria are those that are linked directly to performance in the training situation (ratings used for the exercises done at development centres). External criteria are measures designed to assess actual changes in job behaviour. Ratings by supervisors and peers (as used in this study) are documented evidence regarding the participant's "on-the-job" application of developmental principles, constitute external criteria. Both internal and external criteria are necessary to evaluate the relative payoffs of development programmes, and the relationships among them must be thoroughly investigated to draw meaningful conclusions about training effects. In the present study, both internal criteria and external criteria were used.

Behavioural criteria refers to the measures of performance in the work place (Cascio, 1987). The goal here is to demonstrate positive transfer between what is learned in training and what is applied in the work place. This involves demonstrating behavioural changes in on-the-job behaviour, and also demonstrating that such changes are due specifically to training / developmental intervention.

The appropriate use of experimental or quasi-experimental designs (e.g. before and after measures of on-the-job behaviour with one or more control groups) is especially important when assessing behavioural changes since there are usually alternative explanations for observed changes. In assessing on-the-job behavioural changes, a reasonable period of time should be allotted after the completion of the training programme before measures are taken (Cascio, 1987). In the present study, the pre- and post-test period was three months.

The correlation coefficient for the agreement between repeated measurements under similar conditions constitutes an estimate of the reliability of the measure procedure. This correlation coefficient is called the reliability coefficient. Virtually no measurement instruments used in the evaluation of training programmes have perfect reliability. Values that range from .65 to .74 are acceptable (Kane, 1976).

Kirkpatrick (1977) suggests the following guidelines in evaluating programmes in terms of behavioural changes:

- A systematic appraisal should be made of on-the-job performance on a before-and-after basis.
- The appraisal of performance should be made by one or more of the following groups:
 - ⇒ the person receiving the training;
 - ⇒ their subordinates or superiors; and
 - ⇒ their peers or other people thoroughly familiar with their performance.
- A statistical analysis should be made to compare performance before and after training and relate changes to the training intervention.
- The post-training appraisal should be made three months or more after the training so that participants have the opportunity to put into practice what they have learned.
- A control group should be used.

Measures can be taken at each criterion level - reaction, learning, behaviour and results. This study focuses on the behavioural level.

3.9 CRITERION VALIDITY

The results of the evaluation must have internal validity to be believed and used in decision making. Changes that have been measured may have been caused by variables other than the training intervention, thus posing a threat to internal validity.

Such variables would include any event occurring in the larger environment, internal changes or maturation of the trainees, sensitisation due to the pre-test, differences between control groups and trained groups that are inherent in those groups and are not caused by the training and loss of members from control and training groups over time and during the course of implementation and evaluation. Different methods of gathering data at different times during the evaluation would also render the results questionable. Statistical regression to the mean needs to be taken into account in any evaluation of this nature.

Many of these threats to validity can be controlled by methodological precautions. Pre-and post-testing is useful in establishing a baseline from which to make conclusions after having measured the change through a post-test. Alternative forms of the same test can be developed to avoid complications arising from test familiarity. Use of control groups would further control variables unrelated to the training environment.

Training evaluation should be aimed at answering specific questions. To ensure that these are appropriate and useful questions, line management and organisational decision makers must be involved in the needs analysis and development of training objectives, while the commitment to measuring certain criteria must be established. It is advisable to secure this in writing to ensure that goals do not change when time pressures and variables intervene.

It is only through co-operation of this nature between the training department and stakeholders in the job environment that training can produce positive and sustained work outcomes.

Internal and external validity are relevant to the results of an evaluation study. Internal validity asks the basic question, "Did the intervention / centre make a difference in this particular situation?" External validity provides conclusions about the extent to which the results can be generalised across populations, settings and times. The design that controls most threats to internal and external validity is most useful.

The following is an overview of threats to validity as discussed by Kane (1976).

- History: specific events occurring between the "before" and "after" measurement in addition to training (Cascio, 1987; Campbell & Stanley, 1963)
- Maturation: ongoing process within the individual, for example gaining more job experience.
- Testing: the effect of taking a test upon the scores of subsequent testing in the same or equivalent form (Kane, 1976).
- Instrumentation: changes in the calibration of a measuring instrument or in the scores or the observers that lead to the appearance of training effects (Campbell & Stanley, 1963).
- Regression artefacts: the natural tendency of persons who have been selected for training on the basis of their extreme (high or low) scores on pre-training measures, to exhibit shifts in their scores on subsequent testings on the same measures back towards the average for the population from which they are selected (Kane, 1976).
- Selection: differences between the groups compared in either the mean levels of, or mean changes in, pre-post training criterion scores resulting from different methods or standards being used to assign individuals to groups.
- Experimental mortality: the differential loss of respondents from the group that received the training and from the untrained comparison group (Campbell & Stanley, 1963).

- Selection-maturation-interaction: the compounding of initial differences on criterion measures between trained and untrained groups, by differences in the rate at which the criterion performance changes over time between people distinguished by the characteristics on which the group assignment was based.
- Reactive effect of pre-testing: the effects of pre-testing often lead to increased sensitivity to the instructional procedure. Thus the participants' response to the training programme might be different from the responses of individuals who are exposed to an intervention without the pre-test. The pre-tested participants may pay attention to certain material in the centre only because they know it is covered in certain test items.
- Interaction of selection and experimental treatment: the characteristics of the group selected for experimental treatment determines the general applicability of the findings.
- Reactive effects of experimental settings: the procedures employed in the experimental setting may limit the general applicability of the study. Awareness of the research may lead to changes in participants' behaviour that cannot be generalised to others who will participate in the intervention when it is not the focus of a research study.
- Multiple-treatment interference: differential residual effects of previous training experiences.

Observing the three methodological precautions - pre-testing, control groups and random assignment - is a small price to pay for increasing the validity of the evaluation. Yet increased accuracy goes along with increased cost. The evaluator must make reasonable assumptions about how valid the information needs to be for a decision maker. The cost of the evaluation must be weighed against the value of the information.

3.10 EVALUATION AND EXPERIENTIAL DESIGN

Following is an overview of several different ways of demonstrating the effects of training and development. The more sophisticated designs are better able to pinpoint

the changes for which training is responsible. However, they present practical problems that may limit their useability.

3.10.1 POST-TEST ONLY

This is not recommended because there is no baseline from which to draw conclusions about changes in behaviour. There is no way of knowing whether in fact any change has actually occurred or whether that knowledge/skill was established before the onset of training.

3.10.2 PRE-TEST / POST-TEST DESIGN

This design shows change over time but cannot make casual statements about whether change is due to the training or other variables. The absence of a control group makes it difficult to attribute changes to the programme (Holdnak, Clemons & Bushardt, 1991).

3.10.3 POST-TEST CONTROL GROUP

Randomising here may control for pre-training levels of performance. Pre-training equivalency can only be established through measurement prior to training.

This design will be able to show a difference between trained and untrained groups but cannot indicate how much of the change is due to training, as one has no knowledge of the level at which the groups started (Camp, Blanchard & Huszczo, 1986).

3.10.4 PRE-TEST/ POST-TEST CONTROL GROUP

If employees are randomly assigned to groups, threats to internal validity are controlled. Here the effect of pre-testing on the training itself is unknown. The random assignment of subjects is difficult in practice, as assignment is mostly a function of the employees who have been nominated by their seniors for development programmes (Carnevale & Shultz, 1990).

3.10.5 SOLOMON FOUR-GROUP

This allows the assessment of training and the effects of pre-testing by combining the Pre-test/ Post-test Control Group and Post-test Only Control Group design (McCormick & Illgen, 1989). It is generally considered to be one of the most powerful designs in that it controls most threats to validity (Kerlinger, 1986; Holdnak et al, 1991).

3.10.6 TIME SERIES ANALYSIS

Time series analysis establishes a baseline of performance prior to training and after training. Once a pattern of behaviour is established, changes can be attributed to training. This design can be improved with the use of control groups. Maturation and testing effects are thus controlled; however, history cannot be controlled (Dorfling, 1989).

3.10.7 MULTIPLE BASELINE DESIGN

This is similar to the time series design. However, starting times for training are staggered so that all groups receive training, but at different times. This also means that there is no dilemma about the control group not receiving training (Camp, Blanchard & Huszczo, 1986) and also eliminates the need for a rigidly maintained control group (Carnevale & Schultz, 1990).

3.11 CONCLUSION

Whether to evaluate training or not should not be a debatable issue. Evaluation does occur but may often be detrimental if it is not scientific and if the training department cannot delegate control over valuable information necessary for making decisions on organisational resources. ✓

Instead, the debate should focus on how scientific and sophisticated the evaluation design needs to be to meet organisational goals and be able to demonstrate the value added, as do other departments in organisations today. ✓

Although the evaluation of training appears to be a formidable task, the ultimate value of any training and development intervention is open to speculation, unless a constructive attempt is made to evaluate the effectiveness of the techniques used as well as the overall process.

Future research needs to be focused on the area of evaluation of developmental activities, especially on evaluating the management development application of assessment centres (Thornton & Byham, 1982). Research on the management development application has been aimed at the feedback process and assessor benefits to exposure (Slivinsky, McDonald & Bourgeois, 1979; Moses & Byham, 1977; Lorenzo, 1984; Beardsley, 1985).

Fleenor (1988) evaluated the impact of a development centre on managerial performance. He concluded that participating managers were able to improve their managerial performance after receiving feedback from an assessment centre.

Fischer (1992) focused on the impact of a development centre on managerial performance. The results indicated significant differences in all the dimensions, except two, between the experimental and the control groups.

Survey results suggest that very few companies properly evaluate their development centres. Only 33% of the companies surveyed (Goodge, 1994) obtained information on competency improvements and 14% conducted statistical checks. Some 21% of companies did not consider participants' reactions and 38% did not check progress with development plans. The benefits of continuous improvement are not sufficiently

evaluated. Evaluation is necessary in order for companies to know how well they are doing, as well as to determine what needs to be changed or improved. ✓

It is clear that there is a need for further research on this technique of management development, namely the development centre. Although most organisations employ assessment centre methodology for management development, only the selection application has been thoroughly researched. Due to the fact that this approach to development is expensive, it is imperative that costs should be objectively justified.

CHAPTER FOUR

DEVELOPMENT CENTRES

4.1 INTRODUCTION

The recent globalisation of world markets (Taylor, 1991; McGrath & Hoole, 1992) has resulted in a paradigmatic shift of how organisations organise and manage people (Beer & Walton, 1990). This has accentuated the importance of managerial development as it is this effective leadership that sets the successful organisation apart from the unsuccessful organisation (Hersey & Blanchard, 1993). ✓

South Africa has an unacceptably low GDP growth rate and a poor and deteriorating ratio of managers to non-managers. Statistics in 1985 indicate that this ratio was 1 : 42 in 1985; 1 : 56 in 1988 and forecasts are that it is likely to reach 1 : 100 by the year 2000 (Manning, 1988). Comparative 1989 ratios for benchmark industrialised countries were 1 to 16 in the United States, 1 to 14 in Australia and 1 to 12 in Japan (Cooper, McCaul, Hamilton, Delvare, Moonsamy & Mueller, 1990). About 95% of all managerial jobs are currently occupied by whites in this country, who comprise less than 20% of the economically active population (Manning, 1988). This compounds the problem further, as the future managers of this country will therefore have to be drawn primarily from a socially, politically and economically disadvantaged pool of blacks, coloureds and Asians. ✓

The pace of change has overtaken companies' abilities to develop managers of the right type in sufficient numbers. Management urgently has to respond to this human resource gap (Colloff & Goodge, 1990). The growing use of assessment centres for the development of managers is testimony to the belief that they are effective interventions in addressing this gap (Adams, 1995; Lee & Beard, 1994). ✓

This chapter serves as an overview of the definition, rationale and theoretical foundations of the development centre.

4.2 DEFINING AN ASSESSMENT CENTRE AND UNDERSTANDING THE DEVELOPMENTAL APPROACH

An assessment centre involves multiple evaluation techniques, mostly job-related simulation exercises, but can also use interviews and psychological tests. An assessment centre may be defined as a group-orientated, standardised series of activities that provides a basis for judgements of human behaviours, relevant to the workplace and the managerial job, performed in an organisational setting (Finkle in Dunette, 1983). The task force on assessment centre standards stipulates the following criteria (Craig, 1987; Spangenberg, 1990):

- it must contain specific definitions of managerial effectiveness (dimensions) against which participating managers are measured.
- multiple measurement techniques must be used (i.e. role-plays, in-baskets etc.).
- performance of behaviour is observed and evaluated by a selected, trained team of assessors (line managers and personnel practitioners).
- information is integrated (ratings are pooled, discussed and final ratings are agreed upon).

The idea of refocusing assessment centres on development has been encouraged by a number of new concepts in human resource management - in particular, continuous development, the learning organisation, empowerment of individuals and competencies (Adams, 1995).

The developmental approach has become necessary because of needs such as the participant's need to understand and agree with centre results, cost-effective procedures and an increased focus on management development. Development centres thus focus on diagnosing development needs, making development recommendations and providing the participant with comprehensive feedback that is facilitative by nature (Thornton & Byham, 1982).

The main similarities between development and assessment centres are that both activities are designed to measure the abilities of those who take part, both use trained people who observe and assess performance against competencies, as participants complete tasks that simulate real activities associated with a particular role or job (Lee & Beard, 1994).

TABLE 1

DIFFERENCES BETWEEN DEVELOPMENT AND ASSESSMENT CENTRES

MAIN DIFFERENCES	DEVELOPMENT CENTRES	ASSESSMENT CENTRES
PURPOSE	Used to identify personal development and training needs of people who already work in an organisation, either in their current role or for a future role.	Used for selecting job applicants.
OUTCOMES	Data fed back to the participant, interpreted and an action plan is devised to improve performance. Career intention and guidance is included.	Information used to make a decision to select or reject. Details of performance not usually discussed with individual.
PROCESS	Assessors are drawn into the learning process, discussion is allowed, social contact is encouraged and high levels of trust are required. Often incorporate feedback from colleagues or subordinates.	Assessors remain detached and neutral, so that they do not influence performance.

Development centres are diagnostic instruments that identify precise development needs by revealing the gap between the current abilities of participants and the standard of performance required in a particular job. This gap needs to be closed by providing some additional activity (e.g. coaching, development, training or targeted remedial action). ✓

Many South African and a great number of overseas organisations are presently utilising this type of assessment centre (Marais, 1990). The focus of the management development centre is purely on development. Participants are involved in assessments. Interaction, self-assessment and training activities take place during this centre. The benefits include increased commitment, heightened understanding and improved cost-benefit (Rayner & Goodge, 1988; Griffiths and Allen, 1987). The participant is involved throughout the process, unlike traditional assessment centres with limited post-centre involvement in development.

Goodge (1994) points out that development centres run by companies vary enormously and that the terms assessment centre and development centre have no agreed meaning. He claims that there is no single definition and that no one design works best.

Griffiths & Goodge (1994) define a development centre in broad terms as “an off-site process resulting in effective development actions”. Important implications are that participants must be capable of further development (a screening process is vital), and post-centre development actions must be well worked out for the centre to be effective.

The general objectives of development centres include:

- diagnosing strengths and development areas;
- providing participant feedback to produce change or team building;
- identifying and planning the development of high-potential people;

- succession planning; and
- career planning (Lee & Beard, 1994).

4.3 THE RATIONALE OF DEVELOPMENT CENTRES

Development centres can be used to overcome many of the problems inherent in most training and development activities. Diagnosis is lacking and training is therefore not used appropriately. The result is that the wrong people are often trained in the wrong things at the wrong times. Limitations of standard training courses include unreality, problems of transfer of learning, cost, time and rapidly changing needs.

People can change their behaviour and develop new or improved methods of coping with job responsibilities. Change can be accomplished through a combination of self-insight and organisational effort.

Shuttleworth & Prescott (1991) highlight the advantages of combining training with an assessment centre. It is cost-effective and it offers participants an opportunity to take on new ideas (in a "protected" environment) about how to manage themselves and others. Training with assessment processes has a positive impact on the company's image as a positive, open, caring employer (Adams, 1995).

We need to develop a diversity of talent that enables our companies to innovate and be responsive and flexible. This calls for personal development plans and self-development; for multi-skilling and skill enhancement; for experimentation and the tolerance of mistakes (Bennet, 1993; Patterson, 1993).

People cannot be developed if they do not want to be developed. The infrastructure and support processes can be provided but they do the developing. This is clearly demonstrated in the growing use of personal development plans. The individual takes primacy in his / her own learning, although much of that learning can take place with and comes from others, as in action learning. Rea, Rea & Moomaw (1990) stress that

it is important that employees should assume the responsibility for implementing the development plans.

Development centres will be used in the area of career counselling to help employees identify their own job needs and aid the organisation in finding positions to fit them. Assessment is improved by putting participants into situations that simulate the actual jobs to be performed. Participants perceive themselves more accurately and develop a more realistic sense of their career chances (Morgan, 1980; Patten, 1993; Wood, Boyle & Fullerton, 1994; Charoux, Viviers & Fourie, 1996).

The best exercises are “task-based” - those that use actual parts of the target job as exercises. These exercises increase the validity of the information acquired and increase the enthusiasm for the process (Goodge, 1991).

The emphasis is on change in behaviour. The exercises should provide opportunities for each participant to develop in areas where they are weak. The selection of dimensions to be developed, the way the exercises are run, how and when feedback is given and the general climate of the programme are important in the design of a development centre (Thornton, 1992).

Assessment centres used for development provide participants with:

- immediate, specific and directed feedback;
- professional interaction;
- skill assessment;
- individual attention; and
- evaluations from more than one source and in more than one situation.

Assessment centre concepts can be used to help employees complete a smooth transition into a new position. Candidates have an opportunity to gain insight into their own abilities and the realities of the position. In this way, development centres play a role in decreasing employee turnover.

Development centres can be used as a catalyst in the process of organisational change and development. They provide a way of transmitting culture and values down the organisation by building a common competency language (Anonymous, 1994; Winter, 1995; Adams, 1995). ✓

Development centres may play a role with regard to the National Qualifications Forum, in that previously disadvantaged people have the opportunity to gain accreditation for experience and proven ability. This is particularly applicable to management positions, where the majority of people enter with no formal education or training (Fuller, 1994). Organisations will use the assessment centre methodology to achieve national standards and to avoid subjectivity (Dakers, 1993). ✓

Guerrier & Riley (1992) found that one effect of the development centres was that they exposed the limitations of some managers who had been regarded as adequate in their old positions. The result was that some managers decided not to pursue their career goals in the management field but to look for other positions within the organisation which better suited their skills and interests. Development centres can uncover management talent which otherwise might have been under-utilised and undeveloped. Some individuals move earlier and/or in different directions than expected (Anonymous, 1993). ✓

Self-development is rapidly becoming established as a major vehicle for individual and organisational change. It means that individuals and groups are taking the initiative to organise and use the resources necessary to support their professional and personal learning. This reflects the trend towards flatter structures, local responsibility and the responsiveness to the needs of both internal and external customers (Phillips, 1993; Stuller, 1993; Anonymous, 1994; Garavan & Sweeney, 1994; Gilligan, 1995). ✓

Delaying, caused by leaner and flatter organisations, has led to widespread disillusionment as the expectations created by traditional career ladders are not being met (Holbeche, 1995). Flatter structures highlight the need for employees to be ✓

enterprising, able to take well-calculated risks on behalf of their organisations and able to influence at all levels. The new “psychological contract” between employees and employers offers employees the opportunity to develop themselves and increase their employability in return for the increased skills and output required of them under a flat structure. The contract is about development and commitment to the organisation as long as the organisation is committed to their development (Patterson, 1993; O’Conner, 1993; Adams, 1995).

Development centres provide a practical framework for the growth that will infuse today’s flatter structures with dynamic, innovative and self-managing people (Holbeche, 1995; Stuller, 1993; Laabs, 1995).

It must be acknowledged that not all able individuals wish to have a career path that is linear and progressive. Able individuals can contribute to an organisation in such a way that their performance will be enhanced if the organisation allows them the opportunity for informed self-management of their careers (Harley, 1995; Charoux, Viviers & Fourie, 1996).

4.4 THEORETICAL FOUNDATIONS

Certain theoretical foundations are important when designing an effective development centre. Standardisation, reliability and validity are critical principles of prediction.

Standardisation refers to the uniformity of the procedures for evaluating participants. Careful administration must ensure that participants receive the same instructions, the same questions, rules, time limits and the same chances. Variations not controlled must be documented.

The assessment centre methodology is changing constantly, centres are becoming easier to use and more widely applicable. The changes retain or improve upon the assessment centre’s high level of accuracy. Goodge (1987) questions three major design principles and suggests that these constraints be removed.

The first is that assessors have to rate delegates on skill dimensions. Sackett & Dreher (1982) found that it is not necessary to assess at a detailed skill level, a broad evaluation of how well the delegate did on the exercise provides a similar amount of information. The implications of this finding is that assessor training may require only a briefing on how to use the checklist and how to run the exercise. Assessors still need to make ratings in terms of skills when feedback on performance is given to individuals. Delegates need their feedback organised and a detailed framework of skills will continue to be important.

The second aspect Goodge (1987) questions is that assessors should not talk to delegates. The obvious impact of feedback during the centre is that the delegate becomes more aware of his/her strengths and limitations. Interaction also ensures that assessors understand delegates' reasons for doing things, they are better informed and assessments are more accurate (Iles & Vorster, 1994).

The third is that assessors have to meet to make the final decision. Wingrove, Jones & Herriot (1985, as cited by Goodge, 1987) found that a simple average of the ratings predicts performance better than an assessors' meeting. Assessors' meetings are subject to the same group dynamics as all other meetings. An acceptable approach may be to use averages produced by computer to highlight those individuals the assessors need not spend time discussing (those with very high and very low averages). Time can then be spent on discussing individuals whose performance is not "clear cut". This averaging method is particularly suitable especially where the aim of the centre is to develop existing managers rather than to select individuals.

Goodge (1991) lists the following guidelines for credible, quality assessment:

- setting clear and high standards of assessment and diplomatic policing;
- thoroughly training the centre's coaches / assessors;
- providing participants and coaches with a range of tools that make assessment
- easier and more objective (e.g. checklists, handbooks etc.); and

- using a variety of sources of information about the person (e.g. questionnaires completed by work colleagues).

Effective development centre designs ensure that feedback is perceived as accurate by basing it on job-related exercises, ensuring that feedback is clearly explained and that feedback is accompanied by strong supporting evidence and examples. Goodge (1995) discusses the effectiveness of third-generation designs that provide exercise realism, participant involvement and development planning. He stresses that the most effective post-centre processes are informal supporting and monitoring activities, as well as self-managed study. ✓

The quality of the participants' personal development plans is a crucial measure of the centre's success. It is important to note that the things that make a difference to performance happen after and not at the centres. ✓

4.5 THE ROLE OF ASSESSORS

The degree of professionalism and commitment shown by the assessors will determine the level of acceptability of the assessment centre. Assessors must be carefully selected. They must be committed, receptive to new ideas and have a good track record for counselling and developing their staff. They must be systematic and analytical in their approach (Dulewicz, 1991). Feedback is accepted when it is well substantiated. It must be clear, open and honest to be of real value to help participants develop themselves.

The assessor takes on some of the roles of mentor in supporting the participant in the advancement of his or her career. Participants are assisted in developing new skills. ✓
The most effective technique is to provide immediate feedback about performance ✓
and then give the learner an opportunity to adjust behaviours in subsequent learning

situations. Skill development takes place when the individual has the chance to repeat the activity and receive reinforcement for correct behaviours.

Dulewicz (1991) compared the results of self-assessment with assessors' ratings and confirmed that participants appear to have a fairly accurate idea of how they have performed before they actually receive any formal feedback.

To overcome the concern of release of personal information, a "contract" can be agreed upon so that there is no obligation for participants to share any information in the reports and development plans with their line managers or human resource staff. The strength of the contract is that it builds trust and openness (Shuttleworth & Prescott, 1991).

In a "collaborative" method of assessment the participant is provided with frank, helpful feedback from "coaches" (not assessors) immediately at the end of each exercise. The coach facilitates objectivity and understanding. Collaborative assessment enables participants to write their own personal strengths and weaknesses report in an objective and comprehensive manner. Coaches provide guidance and checking.

The appointment of a mentor for each participant has been shown to be of great value in many organisations. This role involves counselling and advice on a regular basis and provides valuable support for development.

The most common problem with development centres is post-centre follow-up. Planned development sometimes fails, but centres that work with participants to formulate assessment and report jointly are less likely to experience follow-up problems (Iles & Vorster, 1994).

Implementation cannot be left to chance. A system should be set up to monitor progress and provide central support whenever necessary. The critical factor is how much the participant does to develop himself or herself through self-development on

the job and by ensuring that the recommended training and development is implemented (Phillips, 1993).

4.6 CONCLUSION

The development centres strategy is holistic, based on sound technology and generates self-learning. It is a laboratory for risk taking, experimenting and facilitating change. For this reason there is a move away from programmes facilitated by consultants to programmes in which managers work together with staff and consultants to manage change, to redirect organisational efforts and performance. Managers are learning that they must manage change. Increasing international competition, deregulation, the decline of manufacturing, the changing values of workers and the growth of information technology have changed the concepts and approaches managers must use (Beer & Walton, 1987). These changes require adaptive, flexible organisations, and skilled managers. ✓

Re-engineering is part of the business climate today. Keeping up with customer needs means fundamental behavioural changes that permeate every level of a company - every project undertaken, every process used, every meeting held (Young, Pieters & Chevin, 1994).

The key to this transition is to learn from mistakes and quickly translate learning into action. Continuous learning and improvement are essential. This learning must extend to all jobs in the company - even those with no direct impact on products or customers. ✓

The development centre model has been successfully applied to develop managers and to promote change. Distinctive features include collaborative decision-making, ✓ extensive feedback and self-assessment. This ensures that managers "buy-in" to ✓ subsequent development plans negotiated between the assessor, the participant and the participant's line manager (Forster & Iles, 1994).

Management development has a strong part to play in change in the organisation and anticipation of change is of paramount importance. Managers should have a flexible approach to their jobs and this will mean that they will be able to adapt to change more readily.

The aim is to identify key strategic and future-oriented competencies required by managers and to design development centres that would enable individual development plans to be drawn up against these competencies (Forster & Iles, 1994; Boehm, 1985). ✓✓

Goodge (1991) claims that “a development centre can initiate a great deal of valuable, appropriate and inexpensive development”.

Four guidelines, in designing a development centre, suggested by Goodge (1994) include:

- focus on outputs that have to be achieved; ✓
- be innovative in using resources; ✓
- design for the participants, assessors and line managers - consider which processes and materials they would like to work with; and ✓
- evaluate the development centre.

The importance of involving participants in assessment and working hard at development planning at the centre must be emphasised. This reduces common problems experienced with post-centre action.

Today it is imperative that participants should genuinely understand and accept assessments and perhaps understand a new, changing role. Only a comprehensive third- generation design seems likely to have the “bottom line” impact that companies need in this economic climate. Designs of centres must change to meet changing requirements, yet many companies persist in working to rigid prescriptions that discourage innovation. Evaluation of centres has been so neglected that some companies are unaware of how effective or ineffective their centres are. ✓

On the basis of the literature reviewed, it appears feasible that the development centre is an effective process to develop managers. It is from this premise that the hypothesis in the present study was developed.

The primary hypothesis to be addressed is thus as follows:

Participation in the Junior Management Development Centre will contribute to an increase in managerial performance as measured in ten critical dimensions.

The methodological approach to be adopted in investigating the abovementioned hypothesis will be outlined in the chapter to follow.

CHAPTER FIVE

RESEARCH PROCEDURE - EMPIRICAL STUDY

5.1 HYPOTHESIS

Against the background of the research problem, the objectives of the research and the literature study, the following hypothesis is stated:

The General Hypothesis: H1:

Participation in the Junior Management Development Centre will contribute to an increase in managerial performance as measured in the following critical managerial dimensions:

- a) *Self-development*
- b) *Initiative*
- c) *Fact finding*
- d) *Judgement*
- e) *Individual leadership*
- f) *Group Leadership*
- g) *Delegation*
- h) *Verbal communication*
- i) *Written communication*
- j) *Planning, organisation, co-ordination and control*

5.2 METHOD OF INVESTIGATION

5.2.1 OVERVIEW

The South African Broadcasting Corporation's (SABC) Management Development Centre was introduced for junior management in 1993.

The development centre is a formal process during which group and individual management simulations are used to determine an individual's managerial ability, skills, potential and training needs. The individual's performance is evaluated against a number of management dimensions that are regarded as being of critical importance for successful management. The dimensions used during the SABC's development centre are in accordance with those used world-wide in the assessment of managerial potential (see appendix A).

During 1986 Hoechst broke with tradition by establishing a development centre, the objective of which was to involve a participant in the evaluation process and jointly to formulate a personal development plan, mutually addressing observed and defined management development needs. It is on this concept that the development centre of the SABC is based.

The popularity of this new approach has rapidly increased and a number of organisations are currently adapting their assessment centres to development centres, favouring the emphasis on collaboration and the learning process. This has been done when the purpose is development rather than selection.

The application of the development centre primarily focuses on the identification of individual management development needs and the assessment of management potential. The idea is to identify potential early on in an individual's career and to direct and support development routes to facilitate preparation for higher managerial positions.

The result is a pool of high potential candidates to draw from as an alternative to formal succession planning.

5.2.2 DESCRIPTION OF SAMPLE

The data in this study were gathered as an evaluation of the effectiveness of a junior management development centre at the SABC. The centre was originally developed in

1993 to focus on feedback and recommendations for development. Although the sample used was multi-racial and multi-gender, it was an ad hoc convenient sample over which the researcher had no control. Data were gathered on 111 first-level supervisors, of which 47 assesseees had participated for developmental purposes. There was a naturally occurring control group ($n = 64$) of people who had been nominated for the centre, but who, because of limited centre capacity, did not attend the centre in 1996 (the year in which the data were collected).

Participants were nominated by their line managers. Nominees should be not older than 40 years of age, have proven managerial potential and an expressed interest in management development (as opposed to functional development). Nominations were in accordance with the broad principles of affirmative action.

TABLE 2

GENDER AND RACE DISTRIBUTION FOR THE EXPERIMENTAL AND CONTROL GROUPS

RACE	GENDER	GROUP 1	GROUP 2	GROUP 3	GROUP 4
		EXPERIMENTAL	CONTROL	EXPERIMENTAL	CONTROL
WHITE	MALE	7	25	5	19
	FEMALE	8	3	5	9
BLACK	MALE	7	1	8	6
	FEMALE	1			
OTHER*	MALE	2	1	1	
	FEMALE	2		1	

* It is only for academic purposes that the term 'other' has been used to refer to Indian, Asian, "coloured", etc.

5.2.3 ASSUMPTIONS WITH REGARD TO GROUP COMPOSITION

The assumption that group 1 and group 3 are equal, and that group 2 and group 4 are equal is justified by a study of the biographical data of the participants who make up these groups. By considering the composition of the various groups it became evident that group 1 and group 3 are comparable as they were made up of multi-racial and

multi-gender participants, while group 2 and group 4 were comprised of 69% white males. The gender and race distribution of the experimental and control groups is reflected in Table 2 (refer to 5.2.2).

The breakdown of group composition justifies the assumption that group 1 and group 3 are expected to be equal, while group 2 and group 4 are expected to be equal. This is a fair assumption as they comprise a random sample from the same population, a sample that was not manipulated in any way.

The implications of these data are that comparisons across the different groups are not applicable. It is only feasible to compare group 1 with group 3 and group 2 with group 4, as these groups are equal in composition.

The results of the t-tests are discussed and interpreted in Chapter 6.

5.2.4 THE DEPENDENT VARIABLE : THE CRITERIA AND MEASURING INSTRUMENT

Criterion data for this research were collected by means of criteria forms (the measuring instrument) distributed to the superior of the participant, who in turn forwarded the criteria forms to the participant and the participant's peer (see Appendix C).

This criteria form was used prior to attendance of the development centre and 3 months after attendance of the development centre. The criteria form assesses 10 critical managerial dimensions (dependent variables) on a three-point Likert-type scale.

Cascio (1991) notes that criterion data may reflect errors accompanying criterion contamination as a result of judgmental rating biases such as leniency and severity, central tendency, the halo effect or racial bias in respect of group membership. To minimise these effects, a multiple-level strategy was adopted when using subjective

ratings as criterion measures. The assessments were done by supervisors, peers and self-appraisals as suggested by Latham & Wexley (1981).

With regard to the collection of data, participants/respondents were requested to return the evaluation form to the researcher on completion via a designated individual in the organisation. This central collection point was used rather than instructing participants/respondents to return the evaluation forms per mail.

A covering letter outlined the nature of the research (see Appendix D). A control list was kept to ensure timeous return of the questionnaires. In the event of a late return, the respondent was telephonically contacted and encouraged to participate or reminded to forward the questionnaire. In cases where questionnaires were still not received, an appointment was made with the respondent to explain the “pertinence” of the information and to handle any relevant questions with regard to the research project.

Of the 537 questionnaires distributed, 504 were returned. This represents a reaction rate of 93,85%. All questionnaires were fully completed and could be included in the research.

The collection of data proved to be very time consuming, as the researcher continuously had to follow up and monitor. The problems encountered were due to the fact that the researcher was regarded as an “outsider” and there was no obligation to support the study. Another factor that hampered the collection of data was the pressure of changes taking place at the SABC at the time.

5.2.5 THE INDEPENDENT VARIABLE: THE DEVELOPMENT CENTRE

The development centre is based on thorough job analysis. Seventeen jobs were analysed at junior management level. Subsequently, the job one level lower and one level higher (the target position) was analysed. Tasks, priorities, problems, channel of communication, etc. were highlighted. Questionnaires were used, as were three-hour job analyses interviews. This information was then grouped into task clusters and the

critical dimensions were determined. A dimension is defined as a cluster of behaviours that are specific, observable and verifiable and that can be logically and reliably classified together. The competencies needed to be effective were identified. Information was collated and dimensions determined. Once these raw data were available, simulations were designed.

The frequency of occurrence of certain issues was considered and then included in the in-basket. Simulations are a reflection of reality, they simulate the manager's work and lend content validity to the centre. Instructions were then written, as were the roles of the role plays. Face validity was considered a high priority to ensure credibility and commitment. The uniqueness of the broadcasting environment is incorporated into the development centre -- dynamic, creative and highly regulated.

An evaluation committee, consisting of line management and union members, was called in to assess the development centre. Only when this committee was satisfied, was the centre implemented, as it is critical that participants should "buy into" the process.

Once core management skills needed in the jobs at that specific level had been identified, only dimensions that could be observed were used in the development centre. Participants were then observed as they worked through these realistic simulations and were given feedback on the extent to which they demonstrated the various competencies.

Competencies should be viewed as behavioural repertoires (sets of behaviour patterns) that some people can carry out more effectively than others. Competencies must be oriented to the future and not a mechanism for cloning the past. There must be a sense of ownership over the list of competencies - they are not generic, but rather culture specific (Woodruffe, 1993; Hogg, 1993). Recent findings suggest that managerial responsibilities are not generic, but rather involve different vertical complexities. This in particular relates to different environmental contexts and job

requirements that define the competencies or dimensions of the development centres (16th Annual Conference, Assessment Centre Study Group, 1995).

The demands of management positions one level higher are significantly different to those of the current job and therefore the competencies required are likely to be very different. The emphasis on future job profiles indicates that the paradigm has shifted from “today” to “the future”. Future profiling increases the longer-term cost effectiveness of the centre. Only those companies that develop employees for the future are likely to remain competitive (Henderson, Anderson & Rick, 1995).

Owing to the participative nature of the development centre, the role of the facilitators differs radically from that of traditional development centre observers. Apart from having the ability to observe, classify and assess people’s behaviour, facilitators are required to have proven interactive skills. The role and function of the facilitator is closely examined and general coaching tips are dealt with. The facilitator must stimulate the thinking of the participant and offer personal insight.

The degree of professionalism and commitment shown by the assessors will determine the level of acceptability of the assessment centre. Assessors must be carefully selected. They must be committed, receptive to new ideas and have a good track record for counselling and developing their staff. They must be systematic and analytical in their approach (Dulewicz, 1991). The assessors were given thorough training to ensure a uniform approach, as their competence and credibility influences the effectiveness of the centre. Facilitators were thoroughly acquainted with the definitions of dimensions, preparation for exercises, how to note observed behaviour, classify behaviour and evaluate behaviour.

The objectives of the development centre are specifically skills improvement, self awareness, management education, development planning and learning. The four crucial variables are motivation, the ability to work under time pressure, interactional style and previous exposure to what “management” is all about. It is therefore not a case of evaluating raw potential.

The collaborative approach used in the development centre requires that a one-on-one relationship should be formed between the facilitator and the participant, unlike most centres where the facilitators rotate. This decision was taken as a result of feedback from participants after the first few centres.

Between six and twelve participants may attend a centre at any one time and usually centres are run back to back, meaning that the first group attends the first session over a 1 ½-day period and the second group attends the second session over the next 1 ½-day period.

The management dimensions of the development centre represents several critical abilities that a junior manager should display to succeed in his/her managerial tasks. These critical dimensions are self-development, initiative, fact finding, judgement, individual leadership, group leadership, delegation, verbal communication, written communication and planning, organising, co-ordinating and control.

- The self-development dimension is evaluated in the background interview on the first day.
- Three levels of initiative are considered, namely reactive, proactive and innovative.
- Fact finding involves gathering information (probing, etc.), links between related issues (holistic view, consider how issue impacts on overall situation) and detail (attention to important detail)
- Judgement is linked to fact finding, as incorrect decisions are often made because they are not based on effective fact finding.
- Individual leadership is evaluated in the one-on-one interaction exercise and the in- basket exercise, while group leadership is evaluated in the assigned role group discussion. Utilisation of people, interpersonal sensitivity (empathy, listening and crediting, etc.) and task structuring (delegation and structuring the process) are assessed.
- Delegation is evaluated in the amount of task structuring in the in-basket exercise.

- Verbal communication is made up of persuasiveness, perseverance, reasoning ability (logical counterarguments, etc.) and auditive aspects (grammar, tone and volume).
- Written communication is assessed in a formal report to management.
- Planning, organising, co-ordinating and control are evaluated in the in-basket.

The centre begins with a general orientation that includes an introduction and theory behind the centre. Following this is the background interview that serves the purpose of establishing relations between the facilitator and the participant, and evaluating the management/self-development that the participant has undertaken.

A series of three exercises are then completed over a 1 ½-day period. Exercises include an in-basket exercise (consisting of 12 items), a one-on-one interaction and a group exercise. The last two exercises take the form of role plays.

Participants in the centre are instructed to perform the role of the operations manager of a company. The history of the company is described. Geographical location, market share, staff complement, organisational structure, achievements, problems, relations with the union are explained. A layout of the company and an organisation is provided.

Character sketches of the key players in the organogram are included, as well as a summary of their responsibilities. A diary of events, schedules and budget figures are available to the participants.

The focus is on development - on-the-job as well as off-the-job development. Participants are evaluated one level higher than their present designation, therefore there is bound to be a gap. The purpose of the centre is to assess how big this gap is and plan to take corrective steps to close it. The gap can often be attributed to a lack of exposure to the duties / responsibilities required at the higher-level position.

Facilitators objectively observed the behaviour of participants and assisted them in evaluating their behaviour. The five steps in the facilitating process were to prepare for an exercise, noting observed behaviour, classifying behaviour, evaluating behaviour and writing a report.

The validity and reliability of the centre depends on accurate noting of participants' behaviour. It is the core of the process. Noting of behaviour must be done as it occurs during the exercises.

After each exercise, the behaviour was jointly classified by the facilitator and participants according to the management dimensions. Assessors used behavioural checklists and took notes during exercises in order to enhance the accuracy of memory when reporting their observations during data integration sessions with participants. This "exercise - feedback - joint decision" cycle, which is repeated several times at the centre, results in delegates with immense insight into their strengths and weaknesses.

The behaviour evaluated is what the person actually says or does that is observable and verifiable by others. Opinions, feelings and vague generalisations are not considered. The dimensions are mandated. In this way the facilitator can explain to the participant exactly what is expected and how this is linked to development. When evaluating behaviour, the facilitator and the participant jointly consider all the evidence that has been recorded and classified for each dimension and then award a rating of more than acceptable (MA), acceptable (A) or development area (D). Split allocations are possible between individual and group situations and also between paper and interactive situations.

Each exercise has several questions and behaviour alternatives in guiding the evaluation of the behaviour. Observer report forms are structured to assist facilitators. Reilly, Henry & Smither (1990) suggest that using behaviour checklists may improve dimension construct validity by reducing the cognitive demands placed on raters.

However, the focus on behavioural specificity may result in the redefinition of the dimension from one exercise to another, resulting in new dimensions that may or may not correlate with one another. As only a small part of the whole dimension is captured in each of a series of exercises, the dimension may essentially be redefined for each specific exercise. Consequently, it may not matter what dimensions assessment centres attempt to measure if proper care is not given to ensuring that these dimensions are consistently defined across exercises and all target behaviours reflect the totality of the dimension. In essence, it may be that the construct validity of many centres is adversely affected by the specificity that was included to improve reliability (Joyce, Thayer & Pond, 1994). Traditional construct validation techniques may simply be inappropriate for this technology.

Trained middle managers with whom participants are not familiar serve as role players in the role-play exercise. After completion of these interactive exercises, the participant leaves the room and the facilitator and role player/s review the participant's performance during the exercise. After the discussion, the facilitator and participant meet to classify the behaviour in the various dimensions. Behaviour is then evaluated and final ratings are awarded for each dimension.

The facilitator informs the participant in writing on his/her performance during the exercise. After all the evaluations have been completed, the facilitator assists the participant in writing the final report. Consensus is also reached on a personal development plan for the participant.

A participant's line manager is involved during a feedback session with a development centre administrator to finalise the participant's personal development plan. Together the participants and their superiors/mentors decide which courses/programmes should be attended and they prioritise the order of attendance. The participants take responsibility for attending these courses / programmes on the dates agreed upon.

A participant's process of development is followed up by the development centre administrator for one year after having attended the development centre. In addition, contact is kept with participants via a quarterly published newsletter entitled Development Centre Times (refer to Appendix B for a diagram of the Management Development Centre process).

5.2.6. THE RESEARCH DESIGN

This research took place in a real situation and all the normal constraints are imposed as the organisation goes about doing its development work. The use of field settings unavoidably undermines some conditions necessary for proper experimental designs (Engelbrecht & Fischer, 1995; Brethower & Rummler, 1983).

Kirkpatrick proposes four levels for evaluating developmental programmes: reaction, learning, behaviour and results. The behaviour level assesses whether learning is transferred to the workplace. The focus of this dissertation will be on Kirkpatrick's third level - the behaviour or transfer of learning to the workplace (Alliger & Janak, 1989; Kirkpatrick, 1979) and for this reason the experimental design includes post-centre measures at an appropriate time in the work environment or transfer setting.

The design of the study is based on the Solomon Four-Group, which consists of four groups of subjects. Individual subjects are assigned randomly to the four groups.

T-1	represents a pre-evaluation
T-2	a post-evaluation
X	the development centre

The four groups are thus as follows:

	TIME		
GROUP 1 - experimental(n = 27)	T1	X	T2
GROUP 2 - control (n=30)	T1		T2
GROUP 3 - experimental(n=20)		X	T2
GROUP 4 - control(n=34)			T2

Using a single group such (as group 1) offers no assurance that the development centre (X) caused any difference between the pre-test and post-test, since other variables might have had an influence. Using a second group as a control group at least equalises the possible effects of the pre-test for the two groups, but still leaves the question of possible effects of the pre-test. Using three groups gets around the possible effects of the pre-test (since there is none for the third group) but does not make it possible to compare what would have happened without either a pre-test or the development centre. Using the fourth group helps to make that kind of comparison (McCormick & Ilgen, 1989). The Solomon Four-Group is generally considered as one of the most powerful designs in that it controls most threats to validity (Kerlinger, 1986; Holdnack, Clemons & Bushardt, 1991).

Where a pre-evaluation was required, participants completed a self-evaluation, they were rated by their next-level supervisor (superior) and by a peer prior to attending the centre. The evaluation forms included the same performance dimensions that provide the focus in the centre. The post-evaluations were completed by the participants (a self-evaluation) a superior and a peer, using the same performance dimensions.

Findings warn us against pinning experimental evaluation of development methods on immediate post tests or measures, as the effect may only be significant a month later. For this reason it is recommended that post-test periods such as three months should be included in research planning. Given the dynamics of the Solomon Four-Group

design, the following supplementary hypotheses may be listed in support of the general hypothesis stated at the beginning of this chapter.

5.2.7 THE SUPPLEMENTARY HYPOTHESES

In combination, the supplementary hypotheses will provide further indications to support the general hypothesis.

- H2 : There will be no increase in managerial performance as measured in the ten critical managerial dimensions in Group 2, the first control group (no participation in the development centre) i.e. $T_3 = T_4$.
- H3 : There will be no significant difference between the post-measures of the experimental groups, Group 1 and Group 3 i.e. $T_2 = T_5$.
- H4 : There will be no significant difference between the post-measures of the control groups, Group 2 and Group 4 i.e. $T_4 = T_6$.
- H5 : There will be no significant difference between the pre-measure of Group 2 and the post-measure of Group 4 i.e. $T_3 = T_6$.

5.3 STATISTICAL ANALYSES OF DATA

There is no single statistical procedure that makes use of all six sets of observations simultaneously. Campbell & Stanley (1963) suggest that, when disregarding the pre-tests, except as another "treatment" co-ordinate with X, one can treat the post-test scores with a 2 x 2 analysis of variance design. Due to the fact that the four groups were not comparable in composition and were at different "starting points" prior to

the intervention, this design was not feasible. The basic assumption of the 2 x 2 analysis is that all groups are equal at pre-testing.

The fact that this study is a field study and that the researcher had no control over the composition of the groups, has resulted in difficulties in analysing the data. Appropriate analysis techniques were selected once the data had been considered. The t-tests are most appropriate for analysing the data in the present study. The t-test values were computed for all ten dimensions, as well as the total score.

The SAS computer package was used for analysis of the t-tests. The t-test for dependent means was calculated for Group 1 and Group 2 to convert the pre- and post-scores into one score per individual – the gain score.

The t-test for independent means was used in comparing the means of different groups, for example, the gain score of Group 1 versus the gain score of Group 2.

5.3.1 DETERMINING THE GAIN SCORE

The gain scores were determined by subtracting each subject's pre-test criteria raw score from the post-test criteria raw score; the difference is the change in work behaviour (gain score).

The hypothesis to be tested is to ascertain whether there is an increase in managerial performance after having attended the development centre. The hypothesis is investigated by analysing the gain score between the groups.

5.4 CONCLUSION

In this chapter the general hypothesis and the supplementary hypotheses were stated, the method of investigation, research design, sample description, independent and dependent variables were discussed.

The focus of the following chapter, Chapter 6, will be on the results of the t-test, analysis and interpretation of the data, as well as a discussion of the results.

CHAPTER SIX

ANALYSIS OF DATA AND DISCUSSION OF RESULTS

6.1 INTRODUCTION

The Solomon Four-Group design permits the comparison of pre- and post-intervention differences in the experimental and control groups. The impact of the pre-test can be considered by using a third group and the fourth group makes it possible to compare what would have happened without either a pre-test or the development centre.

The main objective of the analysis is to determine whether there was any change between the ratings on the measuring instrument by evaluation between the groups.

The Solomon Four-Group Design has high prestige, as it represents the first explicit consideration of external validity factors (Campbell & Stanley, 1963; Holdnak, Clemons & Bushardt, 1991).

Designs become complex because of the dynamics of the environment and the researcher's lack of complete control. The design is as follows:

Group 1 (E1)	T1	X	T2
Group 2 (C1)	T3		T4
Group 3 (E2)		X	T5
Group 4 (C2)			T6

E = experimental group

C = control group

T = evaluation

X = development centre / treatment

FIGURE 2. THE DESIGN

Group 1 and Group 2 are respectively the experimental and control groups, while Group 3 and Group 4 lack the pre-evaluation (testing). This ensures that both the main effects of the pre-evaluation and the interaction of the pre-evaluation and the development centre (X) are determinable. In this way generalizability is increased (Campbell & Stanley, 1963). The actual instabilities of experimentation are such that if these comparisons are in agreement, the strength of the inference is greatly increased. Another indirect contribution to the generalizability of experimental findings is also made, in that through experience with the Solomon Four-Group design one is able to understand the general pattern of pre-evaluation-by-development centre interactions and interpretations are more realistic. By comparing T6 with T3, a combined effect of maturation and history can be assessed.

The ten dimensions of managerial performance are considered separately as the development centre may affect some dimensions more than others. It is improbable, but some dimensions may differ in opposite (positive and negative) directions, in which case we may find that differences may cancel one another out. Should this take place, the results may look insignificant when in fact they are not. Results may be significant only in certain dimensions and this possibility needs to be explored. By considering the dimensions separately, the researcher is able to speculate about this. It must also be remembered that the dimensions are not weighted in any way and some dimensions may be more important than others. On a conceptual level the researcher will accept that all dimensions are equally important.

6.2 CORRELATION COEFFICIENTS OF THE MANAGERIAL DIMENSIONS AS MEASURED ON CRITERION SCORES

Correlation coefficients of the managerial dimensions were assessed in order to investigate the feasibility of the collapse of the dimension scores into one total score of "managerial effectiveness", to be used as the overall criterion of job performance.

The correlation coefficients are illustrated in Table 3.

TABLE 3

CORRELATION COEFFICIENTS OF THE TEN MANAGERIAL DIMENSIONS

(*N* = 111)

	1)	2)	3)	4)	5)	6)	7)	8)	9)	10)
1) SELF-DEVELOP	1,00									
2) INITIATIVE	0,34	1,00								
3) FACT-FINDING	0,22	0,31	1,00							
4) JUDGEMENT	0,28	0,28	0,53	1,00						
5) IND-LEADSHIP	0,26	0,33	0,32	0,40	1,00					
6) GR-LEADSHIP	0,18	0,22	0,24	0,34	0,42	1,00				
7) DELEGATION	0,15	0,21	0,30	0,35	0,41	0,40	1,00			
8) VERB-COMM.	0,25	0,33	0,48	0,37	0,40	0,36	0,17	1,00		
9) WRIT-COMM.	0,04*	0,29	0,32	0,21	0,14	0,14	0,13	0,42	1,00	
10) P O C C*	0,05*	0,28	0,51	0,26	0,29	0,25	0,27	0,35	0,38	1,00

Statistical significance at 95% ($p < 0,05$) *

POCC = Planning, organising, co-ordinating & controlling

Due to the absence of high correlation coefficients, it is clear that it is not statistically feasible to combine the dimensions into a total score, as the dimensions measure different levels of skill.

According to Cascio (1991) the collapse of the scores into a total score (or global criterion) may be justified on the conceptual level. Only in this way will the collapse of dimensions into "managerial effectiveness" have utility meaning in terms of the original hypothesis.

6.3 DISCUSSION OF THE RESULTS OF THE t-TESTS

6.3.1 THE EFFECT OF THE DEVELOPMENT CENTRE

To determine the effect of the development centre, the t-test was used to compare:

T1 and T2 (paired comparisons)

T3 and T4 (paired comparisons)

T1 and T2 (gain score 1)

T3 and T4 (gain score 2)

Gain score 1 and gain score 2

6.3.1.1 THE t-TEST FOR DEPENDENT MEANS

To determine the difference of means within Group 1 (the experimental group) and Group 2 (the control group), the t-test for the dependent means was conducted. The repeated measures design consists of two sets of scores for each individual (pre- and post-evaluations). These two scores are converted into one score per individual to show the gain score. To calculate the differences in each of these two groups, the t-test for paired samples was used.

Once the gain score has been computed for each subject, the hypothesis testing procedure is carried out using gain scores. The analysis involves one sample of scores - a sample of difference scores.

The null hypothesis in this repeated measures design is that there is no difference between the two sets of scores.

(a) THE t-TEST FOR PAIRED COMPARISON, GROUP 1: SEPARATE RATINGS

The t-value for paired samples was determined. We would expect a significant difference between T1 and T2 of Group 1 as Group 1 attended the development centre. Table 4 highlights the gain score between T1 and T2, by listing first the self-ratings in the ten dimensions, then the superior ratings in the ten dimensions and finally the peer ratings in the ten dimensions.

TABLE 4

THE t-TEST FOR PAIRED COMPARISON, GROUP 1: SEPARATE RATINGS
(N = 27)

VARIABLE	MEAN	Sd	STD ERROR	t	p
DIFFSLF					
SELF-DEVELOP	-0,1	0,80	0,15	-0,72	0,4773
INITIATIVE	-0,04	0,70	0,14	-0,27	0,7873
FACT-FINDING	-0,07	0,67	0,13	-0,57	0,5735
JUDGEMENT	-0,11	0,90	0,17	-0,65	0,5229
INDIV-LEAD	-0,11	0,85	0,16	-0,68	0,5017
GROUP-LEAD	-0,19	1,00	0,19	-0,96	0,3455
DELEGATION	-0,15	0,87	0,17	-0,90	0,3811
VERBAL COMM.	0,04	0,85	0,16	0,23	0,8235
WRITT. COMM.	0,00	0,92	0,18	0,00	1,0000
P O C C	0,00	0,73	0,14	0,00	1,0000
DIFFSUP					
SELF-DEVELOP	-0,48	0,64	0,12	-3,89	0,0006*
INITIATIVE	-0,30	0,54	0,10	-2,84	0,0086*
FACT-FINDING	-0,48	0,64	0,12	-3,89	0,0006*
JUDGEMENT	-0,37	0,63	0,12	-3,06	0,0051*
INDIV-LEAD	-0,44	0,70	0,13	-3,31	0,0027*
GROUP-LEAD	-0,30	0,67	0,13	-2,30	0,0296*
DELEGATION	-0,33	0,73	0,14	-2,36	0,0260*
VERBAL COMM.	-,19	0,68	0,13	-1,41	0,1698
WRITT. COMM.	-0,41	0,57	0,11	-3,70	0,0010*
P O C C	-0,33	0,68	0,13	-2,55	0,0170*
DIFFPER					
SELF-DEVELOP	-0,44	0,51	0,10	-4,56	0,0001*
INITIATIVE	-0,48	0,51	0,10	-4,91	0,0001*
FACT-FINDING	-0,37	0,57	0,11	-3,41	0,0021*
JUDGEMENT	-0,41	0,64	0,12	-3,33	0,0026*
INDIV-LEAD	-0,41	0,69	0,13	-3,05	0,0052*
GROUP-LEAD	-2,26	0,45	0,09	-3,02	0,0057*
DELEGATION	-0,37	0,63	0,12	-3,06	0,0051*
VERBAL COMM.	-0,37	0,57	0,11	-3,41	0,0021*
WRITT. COMM.	-0,30	0,54	0,10	-2,84	0,0086*
P O C C	-0,22	0,64	0,12	-1,80	0,0830

Significant difference at 95% ($p < 0,05$)*

Diffslf = gain in self-rating

Diffsup = gain in superiors ratings of participant

Diffper = gain in peer ratings of participants

POCC = Planning, organising, coordinating & controlling

By referring to this table, it is clear that there is a significant difference between the pre- and post- evaluations of the superior and peer ratings (less than 0.05 significance level) but not in the self-ratings. These results provide evidence to support the general hypothesis - participation in the Junior Management Development Centre will contribute to an increase in managerial performance as measured in ten critical dimensions.

The three points of view, namely self-, peer and superior ratings have been combined throughout the research (with the exception of the t-tests for paired comparisons, Group 1 and Group 2, the reason for separating these evaluations into "self", "superior" and "peer" was to highlight the response/shift phenomenon with regard to self - ratings). This 360-degree evaluation obviously renders a more reliable score than a single evaluation.

It is particularly difficult to draw unequivocal conclusions when evaluations are based on self-report data. This is because there are three types of changes that can occur in self-reported, or pre-post-intervention data (Golembiewski & Billingsley, 1980).

Gamma change is a re-conceptualisation of the meaning of some behavioural domain, such as team performance. This may involve a major shift in the perspective or frame of reference within which the behaviour is perceived or classified.

Beta change is a recalibration of a measurement scale after training. For example, after a training programme, the behaviours that correspond to "above average" performance on a behaviourally anchored rating scale describing "skill in human relations" might come to be viewed as expected or average change.

Alpha change represents a genuine change in behaviour over time, relative to a constant calibrated measuring instrument and a constant conceptual domain (Golembiewski & Billingsley, 1980).

More than one type of change can occur as a result of an intervention. It is important to understand which type of change has occurred if the effects of interventions are to be unambiguously examined.

Just because post-intervention scores suggest that the actual is now closer to the ideal, it does not mean that the intervention had the intended effect.

Self-report measures of pre- and post-ratings are subject to an instrumentation-related source of contamination known as response-shift bias. This arises when the experimental intervention changes the subject's evaluation standard for the dimension measured. The definition of response-shift bias is similar to the definition of beta-change (Golembiewski, Billingsley & Yeager, 1976) and when response shifts occur, even true experimental designs are incapable of providing an unbiased estimate of treatment effects. The intervention may expand the participants' conception of a particular phenomenon, for example group leadership. A participant might believe that he/she is "average" on group leadership. At the post-test the participant may believe that his/her pre-test level of functioning was really "below average". If he/she now rates himself/herself as "average" at post-test, we might erroneously conclude that the intervention had no effect (Terborg, Howard and Maxwell, 1980).

Response-shifts increase the participants' ability to rate themselves accurately after the intervention. Increased insight into their real level of functioning as a result of their intervention experiences, are reported. Participants reliably conclude at post-test that their pre-intervention ratings were inaccurate (Terborg, Howard and Maxwell, 1980).

"It could be argued that the self-assessments collected prior to the centre alerted the participants as to what was to be evaluated and that changes in self-perception reflect this heightened awareness" (Schmitt, Ford and Stults, 1986).

To overcome this, participants could be asked to respond to each item on the self-report measure twice, firstly to report how they perceive themselves to be at present and secondly, how they now perceive themselves to have been just before the intervention took place. This assessment has been labelled the “then” measure by Howard & Dailey (1979). The difference between pre- and then-ratings is called the response-shift. Then- and post-ratings are made in close proximity and therefore it is likely that both ratings will be made from the same perspective, and will thus be free of response-shift bias or beta change.

Several studies by Howard and his colleagues revealed significant then-/post-treatment effects whereas pre/post-analyses produced non-significant results (Tergborg, Howard & Maxwell, 1980).

Tergborg *et al.* (1980) hold that alpha, beta and gamma change for any individual in an intervention or control group can be identified and measured through selective comparison of profiles for pre-post and then-ratings made by that individual to a set of items that make up a single construct or dimension.

Self-appraisal suffers from a particularly high level of leniency bias in comparison with either supervisor or peer evaluation. Fox, Caspy and Reisler (1994) discuss leniency in self-appraisal as being due to:

- self-ego preservation (the basic drive of people to hold the best possible opinion of themselves - a positive self-concept provides an experience of well-being and helps protect against threats to the ego);
- impression management (the individuals' tendency to alter self-presentation to seek favour in others' eyes - they do this in the way most instrumental for getting or keeping the job); and
- self-protective orientation is the contrary tendency to underestimate - it involves the display of self in a modest or conservative fashion, thereby reducing the risk of future humiliation if induced expectations are not borne out.

Subjects are inclined to present a flattering portrait of themselves when considering attributes likely to influence real-life decisions affecting their future.

(b) THE *t*-TEST FOR PAIRED COMPARISON, GROUP 1: COMBINED RATINGS

Table 5 reflects the results of the *t*-test for paired comparisons, group 1, where the three ratings - self, superior and peer - have been combined.

TABLE 5

THE t-TEST FOR PAIRED COMPARISON, GROUP 1: COMBINED RATINGS (N = 27)

DIMENSION	EVALUATION	M	Sd	STD ERROR	t	p
SELF-DEV	T1	1,85	0,46	0,09		
	T2	2,20	0,45	0,09	-2,82	0,0068*
INITIATIVE	T1	1,99	0,39	0,07		
	T2	2,26	0,49	0,09	-2,26	0,0283*
FACT-FINDING	T1	1,68	0,36	0,07		
	T2	1,99	0,41	0,08	-2,93	0,0050*
JUDGEMENT	T1	1,75	0,43	0,08		
	T2	2,05	0,33	0,06	-2,84	0,0064*
INDIV-LEAD	T1	1,69	0,41	0,08		
	T2	2,01	0,43	0,08	-2,80	0,0071*
GROUP-LEAD	T1	1,58	0,40	0,08		
	T2	1,82	0,49	0,09	-2,03	0,0480*
DELEGATION	T1	1,48	0,27	0,05		
	T2	1,77	0,40	0,08	-3,06	0,0037*
VERBAL COMM.	T1	1,84	0,45	0,09		
	T2	2,01	0,7	0,09	-1,39	0,1705
WRITT. COMM.	T1	1,73	0,50	0,10		
	T2	1,96	0,47	0,09	-1,78	0,0823
P O C C	T1	1,64	0,45	0,09		
	T2	1,83	0,46	0,09	-1,50	0,1403

Statistically significant at 95% ($p < 0,05$)

P O C C = Planning, organising, coordinating & controlling

The results in Table 5 indicate a significant increase in performance on the first seven dimensions, namely self-development, initiative, fact finding, judgement, individual leadership, group leadership and delegation. However, the findings demonstrate no statistically significant increase in performance in the three dimensions of verbal communication, written communication and planning, organising, co-ordinating and controlling.

Participants are usually rated fairly well on verbal communication. This dimension is probably rated acceptable in most instances and will remain at an acceptable level in the post-evaluation. The two areas of verbal communication considered in the development centre include influencing/negotiating skills and presentation skills. Raters (self, superior and peer) may have paid attention to certain aspects rather than others.

There is usually a need for improvement in the dimension of written communication. The reason that this dimension never significantly improved may be attributed to the fact that, during the follow-up session, participants as well as line managers indicate that this is not a priority in the development plan. It is the last dimension on which they spend time when developing. Participants are inclined not to perceive written communication as important in their jobs and it is therefore not a priority. The "written communication" course is not presented that regularly and this means that there may not have been the opportunity to learn this technical skill during the three-month period after the centre. The total development plan takes approximately 18 months. It is the norm for written and verbal communication to receive attention approximately 12 months after the centre, as other priorities are focused on prior to that. There is also a preset format for written communication in each department (usually a template or memo form), whereas at the development centre something new is expected (introduction, body and conclusion). This formal method is not transferred back to the work environment, as participants fail to see the need for this format.

The majority of participants that attend the development centre need development on the tenth dimension, namely planning, organising, co-ordinating and controlling. This is probably due to the fact that the personality type most prevalent at the SABC is inclined to be creative and free-flowing rather than organised and controlled. The reason that no statistically significant improvement in performance was seen in this dimension may be attributed to the type of intervention not having been targeted correctly. The development process for this dimension is more of a theoretical discussion rather than a practical-skills hands-on approach. During the follow-up meetings with participants, it was indicated that feeling out of control or disorganised, due to external factors beyond their control, was often experienced. Participants have verbalised during the follow-up meetings that, although day-to-day operational planning does not pose a problem, long-term planning does. Time management is always an issue and their environment is prone to unpredictable outside influences.

(c) THE t-TEST FOR PAIRED COMPARISON, GROUP 2:
SEPARATE RATINGS

The t-test statistics for paired comparison, Group 2 are reflected in Table 6.

Group 2 did not attend the development centre and was therefore the first control group. The results of the t-test show no significant differences between the pre- and post-evaluations of self, superior and peer ratings. These results support H2, there will be no significant difference in the ten managerial dimensions measured in Group 2.

H2 is accepted on these grounds - there will be no increase in managerial performance as measured in the ten critical managerial dimensions in Group 2.

TABLE 6

THE *t*-TEST FOR PAIRED COMPARISON, GROUP 2: SEPARATE RATINGS

(N = 30)

VARIABLE	MEAN	sd	STD ERROR	t	p
DIFFSLF					
SELF-DEVELOP	-0,17	0,53	0,10	-1,72	0,0960
INITIATIVE	-0,10	0,48	0,09	-1,14	0,2638
FACT-FINDING	-0,17	0,65	0,12	-1,41	0,1694
JUDGEMENT	-0,23	0,63	0,11	-2,04	0,0504*
INDIV-LEAD	-0,13	0,43	0,08	-1,68	0,1033
GROUP-LEAD	-0,03	0,49	0,09	-0,37	0,7122
DELEGATION	-0,13	0,43	0,08	1,68	0,1033
VERBAL COMM.	-0,03	0,62	0,11	-0,30	0,7687
WRITT. COMM.	-0,03	0,41	0,08	-0,44	0,6624
P O C C	-0,10	0,55	0,10	-1,00	0,3256
DIFFSUP					
SELF-DEVELOP	-0,07	0,64	0,12	-0,57	0,5725
INITIATIVE	0,00	0,53	0,10	0,00	1,0000
FACT-FINDING	0,07	0,64	0,12	0,7	0,5725
JUDGEMENT	0,07	0,59	0,11	0,63	0,5362
INDIV-LEAD	0,00	0,70	0,13	0,00	1,0000
GROUP-LEAD	0,03	0,49	0,09	0,37	0,7122
DELEGATION	-0,07	0,58	0,11	-0,63	0,5362
VERBAL COMM.	-0,07	0,52	0,10	-0,70	0,4888
WRITT. COMM.	0,03	0,32	0,06	0,57	0,5725
P O C C	0,07	0,58	0,11	0,63	0,5362
DIFFPER					
SELF-DEVELOP	0,03	0,62	0,11	0,30	0,7687
INITIATIVE	0,17	0,53	0,10	1,72	0,0960
FACT-FINDING	-0,03	0,67	0,12	-0,27	0,7868
JUDGEMENT	-0,13	0,57	0,10	-1,28	0,2113
INDIV-LEAD	-0,07	0,52	0,10	-0,70	0,4888
GROUP-LEAD	-0,10	0,48	0,09	-1,14	0,2638
DELEGATION	0,00	0,59	0,11	0,00	1,0000
VERBAL COMM.	-0,03	0,41	0,08	-0,44	0,6624
WRITT. COMM.	-0,03	0,49	0,09	-0,37	0,7122
P O C C	0,13	0,51	0,09	1,44	0,1608

Statistically significant at 95% ($p < 0,05$)*

P O C C = Planning, organising, coordinating & controlling

(d) THE *t*-TEST FOR PAIRED COMPARISON, GROUP 2: COMBINED RATINGS

The results in Table 7 indicate no significant differences between pre- and post-evaluations in each of the ten managerial dimensions, when ratings of self, superior and peer are combined.

TABLE 7

THE t-TEST FOR PAIRED COMPARISON, GROUP 2: COMBINED RATINGS

N = 30)

DIMENSION	EVALU ATION	M	Sd	STD ERROR	t	p
SELF-DEVELOP	T3	2,03	0,45	0,08		
	T4	2,10	0,40	0,07	-0,61	0,5474
INITIATIVE	T3	2,29	0,38	0,07		
	T4	2,27	0,37	0,07	0,23	0,8179
FACT-FINDING	T3	2,10	0,51	0,09		
	T4	2,14	0,48	0,09	-0,35	0,7291
JUDGEMENT	T3	2,10	0,40	0,07		
	T4	2,20	0,40	0,07	-0,97	0,3369
INDIV-LEAD	T3	2,04	0,47	0,09		
	T4	2,11	0,45	0,08	-0,56	0,5762
GROUP-LEAD	T3	1,86	0,43	0,08		
	T4	1,89	0,43	0,08	-0,30	0,7668
DELEGATION	T3	2,01	0,40	0,07		
	T4	2,08	0,37	0,07	-0,68	0,5022
VERBAL COMM.	T3	2,01	0,47	0,09		
	T4	2,06	0,46	0,08	-0,37	0,7105
WRITT. COMM.	T3	2,03	0,50	0,09		
	T4	2,04	0,52	0,09	-0,08	0,9326
P O C C	T3	2,14	0,43	0,08		
	T4	2,11	0,35	0,06	0,33	0,7428

Statistically significant at 95% ($p < 0,05$)*

P O C C = Planning, organising, coordinating & controlling

(e) THE t-TEST FOR GAIN SCORE 1

To determine whether there was a significant difference between T1 and T2, the t-test for paired samples was used. The difference between T1 and T2 was calculated (T2 - T1) and called Gain Score 1. If Gain Score 1 significantly deviates from zero, this implies that there was a significant difference between T1 and T2. Table 8 reflects these results.

TABLE 8

THE t-TEST FOR GAIN SCORE 1: T2-T1 (N=27)

MEAN OF GAIN SCORE 1	sd	STD ERROR	t	p
0,27	0,17	0,03	8,35	0,0001*

Statistically significant at 95% ($p < 0,05$)*

The probability of the t-value shows statistical significance (0,0001).

The mean of Gain

Score 1 differs from zero and this indicates that T1 and T2 differ significantly. Since the mean of Gain Score 1 is positive, it indicates that T2 was greater than T1, which implies an improvement in evaluation scores after attendance of the development centre.

This means that we can accept the general hypothesis and reject the null hypothesis because the difference between T2 and T1 does not equal 0.

(f) THE t-TEST FOR GAIN SCORE 2

To determine whether there was a significant difference between T3 and T4, the t-test for paired samples was used. The difference between T3 and T4 was calculated (T4-T3) and called Gain Score 2. If Gain Score 2 significantly deviates from zero, this implies that there was a significant difference between T3 and T4. Table 9 reflects the result.

TABLE 9

THE t-TEST FOR GAIN SCORE 2 : T4-T3 (N = 30)

MEAN OF GAIN SCORE 2	sd	STD ERROR	t	p
0,038	0,60	0,03	1,31	0,1992

Statistically significant at 95% ($p < 0,05$)

The probability of the t-value shows no statistical significance (0,1992). The mean of Gain Score 2 indicates that T3 and T4 do not differ significantly. This result implies that there was no change or improvement in the evaluation scores of the control group (participants not exposed to the intervention).

6.3.1.2 THE t-TEST FOR INDEPENDENT MEANS

The t-test for independent means was used to compare Gain Score 1 and Gain Score 2.

This test compares the means of two entirely separate groups of people whose scores are independent of each other. The key result is a difference between the means of two samples. If the null hypothesis is true, these two populations have the same mean.

The two major assumptions when conducting a t-test for independent means are that the population distributions are normal and that they have the same variance. The t-test for independent means is generally robust over moderate violations of its assumptions (Aron and Aron, 1994), meaning that there are relatively few types of distributions of scores under which this statistic would result in misleading probability estimates.

Table 10 shows the t-test between Gain Score 1 and Gain Score 2.

To accept the null hypothesis, the difference between the pre- and post-evaluation of Group 1 would have to equal the difference between the pre- and post- evaluation of Group 2. To accept the alternative or general hypothesis, the difference between the pre- and post-evaluation of Group 1 would not equal the difference between the pre- and post-evaluation of Group 2.

H0 : Gain T2 - T1 = Gain T4 - T3

HA : Gain T2 - T1 = Gain T4 - T3

TABLE 10

THE t-TEST BETWEEN GAIN SCORE 1 AND GAIN SCORE 2

DIMENSION	EVALUATION	MEAN	Sd	STD ERROR	t	p
SELF-DEVEL	T2 -T1	0,35	0,39	0,07	2,65	0,0104*
	T4 -T3	0,07	0,41	0,07		
INITIATIVE	T2- T1	0,27	0,37	0,07	3,49	0,0011*
	T4 -T3	-0,02	0,25	0,05		
FACT-FINDING	T2 -T1	0,31	0,26	0,05	3,16	0,0026*
	T4 -T3	0,04	0,36	0,07		
JUDGEMENT	T2 -T1	0,30	0,37	0,07	1,85	0,0693
	T4 -T3	0,10	0,42	0,08		
INDIV-LEAD	T2 -T1	0,32	0,33	0,06	2,81	0,0069*
	T4 -T3	0,07	0,35	0,06		
GROUP-LEAD	T2 -T1	0,25	0,37	0,07	2,54	0,0141*
	T4 -T3	0,03	0,27	0,05		
DELEGATION	T2 -T1	0,28	0,42	0,08	2,14	0,0364*
	T4 -T3	0,07	0,34	0,06		
VERBAL COMM.	T2 -T1	0,17	0,43	0,08	1,29	0,2041
	T4 -T3	0,04	0,32	0,06		
WRITT. COMM.	T2 -T1	0,23	0,43	0,08	2,38	0,0222*
	T4 -T3	0,01	0,24	0,04		
P O C C	T2 -T1	0,19	0,42	0,08	2,17	0,0344*
	T4 -T3	-0,03	0,34	0,06		
TOTAL	T-T1	0,27	0,17	0,03	5,34	0,0000*
TOTAL	T4-T3	0,04	0,16	0,03		

Statistically significant at 95% ($p < 0,05$)*

P O C C = Planning, organising, coordinating & controlling

The statistical results show that gain T2 - T1 > gain T4 - T3. This result provides evidence that intervention X (development centre) had an effect on Group 1 participants.

Table 10 confirms that the development centre had a positive impact on all the managerial dimensions, with the exception of two, namely dimension 4 and dimension 8. These dimensions relate to judgement and verbal communication.

The dimension “judgement” is strongly related to exposure. The structure of the corporation must be considered. The formal hierarchy within the system affects decision making and levels of responsibility. The decisions that are taken by this level of management may often not require a high level of judgement.

Judgement is a construct that cannot be developed or changed over a short-term period. This is due to the high correlation between judgement and experience. Although participants may be aware of this development area, they need exposure to situations in which they can exercise their judgement and only then is there an opportunity for the superior and peers to observe the behavioural skill.

6.3.2 THE EFFECT OF THE PRE-TEST

To determine the effect of the pre-test, the t-test was used in the following comparisons:

T2 and T5; and
T4 and T6

6.3.2.1 THE t-TEST BETWEEN T2 AND T5

We would expect no significant difference between T2 and T5, as both Group 1 and Group 3 attended the development centre. The results confirm this, as there is no significant difference between T2 and T5 (the post-evaluation scores of the two groups). The exception being that there was a significant difference between the two groups with regard to dimension 10 (planning, organising, co-ordinating and controlling). The reason for the significance may be due to the fact that Group 3 may have had more exposure to previous training in transactional management or contingent reward management than Group 1. This result supports H3 and we are able to say that the pre-test did not sensitise participants.

Table 11 reflects the results of the t-test between T2 and T5, the post-evaluations of the two experimental groups, Group 1 and Group 3.

TABLE 11

THE t-TEST BETWEEN T2 (N = 27) AND T5 (N = 20)

DIMENSION	EVALUATION	MEAN	sd	STD ERROR	t	p
SELF-DEVELOP	T2	2,20	0,45	0,09	1,21	0,2322
	T5	2,05	0,36	0,08		
INITIATIVE	T2	2,26	0,49	0,09	-1,13	0,2648
	T5	2,42	0,44	0,10		
FACT-FINDING	T2	1,99	0,41	0,08	-0,22	0,8236
	T5	2,02	0,48	0,11		
JUDGEMENT	T2	2,05	0,33	0,06	0,69	0,4948
	T5	1,97	0,49	0,11		
INDIV-LEAD	T2	2,01	0,43	0,08	-1,34	0,1882
	T5	2,20	0,53	0,12		
GROUP-LEAD	T2	1,83	0,49	0,09	-1,71	0,0948
	T5	2,10	0,60	0,13		
DELEGATION	T2	1,77	0,40	0,08	-1,08	0,2845
	T5	1,90	0,45	0,10		
VERBAL COMM.	T2	2,01	0,47	0,09	-1,27	0,2110
	T5	2,20	0,55	0,12		
WRITT. COMM.	T2	1,96	0,47	0,09	-1,03	0,3088
	T5	2,13	0,66	0,15		
P O C C	T2	1,83	0,46	0,09	-2,30	0,0264*
	T5	2,17	0,56	0,12		
TOTAL	T2	1,99	0,27	0,05	-1,38	0,1745
TOTAL	T5	2,12	0,35	0,08		

Statistically significant at 95% ($p < 0,05$)*

P O C C = Planning, organising, coordinating & controlling

It must also be noted that the composition of Group 1 and Group 3 is very similar, so it is highly likely that the pattern of scores was similar in these groups. We do not have any information on the baseline for Group 3, as that group had no pre-valuation. Yet, when considering the similarity of composition of the group in comparison to Group 1, we can assume that the two groups started from a similar point. Group 3 consisted of 5 white males, 5 white females, 8 black males, 1 Indian male and 1 Indian female. Group 1 consisted of 7 white males, 8 white females, 7 black males, 1 black female, 2 Indian males and 2 Indian females.

The interaction of selection and X (the development centre) may play a role here. There is the possibility that the effects demonstrated hold only for that unique population from which the experimental and control groups were jointly selected. This possibility becomes more likely as we have more difficulty in getting subjects for our research (e.g. higher morale, less fear of being inspected, more zeal for improvement etc.). The effects might be specific to this organisation.

It is interesting to note that the group without pre-testing (pre-evaluations) scored a higher mean than the group that was pre-tested. The expectation is that a pre-test may sensitise raters to the problem and, through a focusing of attention, increase the educational effect of the X. Therefore, such an X might be effective only for a pre-tested group.

The results in this study indicate that the group that was not pre-tested scored a higher mean. This could perhaps be explained by the "response-shift" - a shift in the perspective or frame of reference within which the behaviour is classified.

By comparing the years of experience and the type of exposure to planning, organising, co-ordinating and controlling between participants in Group 1 and participants in Group 3, it may explain the fact that T2 evaluations were equal to T5 evaluations, except for dimension 10.

6.3.2.2 THE t-TEST BETWEEN T4 AND T6

Table 12 indicates no significant difference between the post-evaluations (T4 and T6) for Group 2 and Group 4, which supports H4. The pre-test did not have any effect on the scores of those not attending the Junior Management Development Centre.

The composition of these two groups was very similar in that the majority of participants in both groups were white males.

Table 12 reflects the results of T4 and T6, the post-evaluations of the two control groups, Group 2 and Group 4.

TABLE 12

THE t-TEST BETWEEN T4 (N = 30) AND T6 (N = 34)

DIMENSION	EVALUATION	MEAN	sd	STD ERROR	t	p
SELF-DEVELOP	T4	2,10	0,40	0,07		
	T6	2,02	0,38	0,07	0,82	0,4173
INITIATIVE	T4	2,27	0,37	0,07		
	T6	2,28	0,47	0,08	-0,17	0,8691
FACT-FINDING	T4	2,14	0,48	0,09		
	T6	2,12	0,46	0,08	0,23	0,8192
JUDGEMENT	T4	2,20	0,40	0,07		
	T6	2,14	0,42	0,07	0,61	0,5427
INDIV-LEAD	T4	2,11	0,45	0,08		
	T6	2,11	0,45	0,08	0,03	0,9771
GROUP-LEAD	T4	1,89	0,43	0,08	-0,24	0,8089
	T6	1,91	0,30	0,05		
DELEGATION	T4	2,08	0,37	0,07		
	T6	2,06	0,43	0,07	0,19	0,8514
VERBAL COMM.	T4	2,06	0,46	0,08		
	T6	2,07	0,46	0,08	-0,11	0,9099
WRITT. COMM.	T4	2,04	0,52	0,09		
	T6	1,99	0,47	0,08	0,44	0,6606
P O C C	T4	2,11	0,35	0,06		
	T6	2,07	0,34	0,06	0,49	0,6242
TOTAL	T4	2,10	0,26	0,05		
	T6	2,08	0,22	0,04	0,39	0,6953

Statistically significant at 95% ($p < 0,05$)

P O C C = Planning, organising, coordinating & controlling

6.3.3 THE EFFECT OF HISTORY AND MATURATION

To determine the effect of history and maturation, the t-test was used to compare T3 and T6. T1 could not be compared with T6 as the result would once again be clouded by the group composition issue and the fact that these groups started from different performance levels.

Table 13 reflects the result of the t-test between T3 and T6, the pre-evaluation of Group 2 and the post-evaluation of Group 4.

TABLE 13

THE t-TEST BETWEEN T3 (N = 30) AND T6 (N = 34)

DIMENSION	EVALUATION	MEAN	sd	STD ERROR	t	p
SELF-DEVELOPMENT	T3	2,03	0,45	0,08	0,13	0,8956
	T6	2,02	0,38	0,07		
INITIATIVE	T3	2,29	0,38	0,07	0,04	0,9663
	T6	2,28	0,47	0,08		
FACT-FINDING	T3	2,10	0,51	0,09	-0,15	0,8845
	T6	2,12	0,46	0,08		
JUDGEMENT	T3	2,10	0,40	0,07	-0,36	0,7191
	T6	2,14	0,42	0,07		
INDIV-LEAD	T3	2,04	0,47	0,09	-0,55	0,5855
	T6	2,11	0,45	0,08		
GROUP-LEAD	T3	1,86	0,43	0,08	-0,59	0,5549
	T6	1,91	0,30	0,05		
DELEGATION	T3	2,01	0,40	0,07	-0,46	0,6475
	T6	2,06	0,43	0,07		
VERBAL COMM.	T3	2,01	0,47	0,09	-0,49	0,6230
	T6	2,07	0,46	0,08		
WRITT. COMM.	T3	2,03	0,50	0,09	0,36	0,7221
	T6	1,99	0,47	0,08		
P O C C	T3	2,14	0,43	0,08	0,79	0,4298
	T6	2,07	0,34	0,06		
TOTAL	T3	2,06	0,28	0,05	-0,23	0,8199
	T6	2,08	0,22	0,04		

Statistically significant at 95% ($p < 0,05$)

P O C C = Planning, organising, coordinating & controlling

The scores of T3 and T6 should be similar, as both groups were not in the intervention groups, the only difference being the time frame. The fact that the evaluations were done at different times may have had an impact on the results, due to specific historical events occurring between the evaluations within the organisation. It must be noted that the period during which the research was completed at the SABC was fraught with turmoil and change. Between pre- and post-evaluations many other change-producing events may have occurred in addition to the development centre, and some effects of history and maturation would not have been expected.

The composition of both groups is similar. Table 13 reflects no significant difference between T3 and T6, therefore we can say that over time and with no special treatment, these groups remained the same. This result supports H5 : there will be no significant difference between the pre- measure of Group 2 and the post-measure of Group 4 i.e. $T3 = T6$.

T3 evaluations were done approximately 10 months prior to T6 evaluations. The period during which T6 evaluations were completed, was charged with tension and anxiety due to staff reductions and re-engineering.

6.4 CONCLUSION

In this chapter the results of the t-test were considered and interpreted. Reasons for statistical significance, where this was not expected, was explored. The final chapter, Chapter 7, constitutes a summary of these results. The implications of the present study are considered, the limitations of the present research are discussed and recommendations for further research are made. Chapter 7 culminates in the conclusion of this research study.

CHAPTER 7

CONCLUSION

7.1 SUMMARY OF RESULTS

The results of this research study indicate that participation in the Junior Management Development Centre contributes to an increase in managerial performance as measured in ten critical dimensions.

The null hypothesis is rejected and the general hypothesis is accepted. This is supported by measures of statistical significance. It is common practice in applied psychological research to assess the effects of biographical variables such as gender, racial group and education in moderating the relationship between the predictor and criterion variables (Cascio, 1991). Although this limitation of group composition formed a common thread throughout this research, it nonetheless provided evidence to support the potential of the development centre approach to close the gap in managerial effectiveness between previously privileged and disadvantaged groups in the South African context.

7.2 IMPLICATIONS OF THE PRESENT STUDY

Perhaps the most significant implication of the present study is the fact that the results indicate that the development centre approach is highly relevant in the South African milieu, where the gap between the previously privileged groups and the previously disadvantaged minority groups must be bridged. It is the responsibility of the industrial sector to ensure that minority groups become productive, effective managers.

The results of this research provide evidence that the development centre approach is an attractive option in developing and promoting minority groups. In this way organisations will be in a position to react swiftly to socio-economic circumstances. This process of development also ensures competencies critical to the specific business.

When considering the indications of this study, it is easy to understand the trend towards development centres to achieve increased performance and address the human resource gap.

Another implication of the present study, if not its fundamental value, lies in the fact that it adds to the limited empirical research evaluating the impact of a development centre on job performance. Consequently, the findings of the present study contribute to the data base in respect of development centre studies. To facilitate a better understanding of the impact of the development centre, there is a need for more research of this nature. The findings of the present study contribute to greater insight with regard to the process, procedures and outcomes of the development centre approach.

7.3 LIMITATIONS OF THE PRESENT RESEARCH

The following methodological limitations in the present research had an effect on the results:

The first limitation of the present study is that the four groups were of different compositions. The fact that this research took place in a real situation undermined some of the conditions necessary for proper experimental designs (Engelbrecht & Fischer, 1995; Brethower & Rummler, 1983). Constraints were imposed as the nominations for participation in the development centre were in accordance with the broad principles of affirmative action, although other selection criteria were considered, namely potential ability and an interest to pursue a career in management. The groups consisted of ad hoc convenient samples over which the researcher had no control, with the result that the two experimental groups were multi-racial and multi-gender (25% white males), while the control groups were comprised of 69% white males. This of course had an impact on the mean scores of the pre- and post-evaluations.

It is also important to re-emphasise at this point that the scope of the present study was limited in that the composition of the groups restricted comparisons to those that were feasible. Had comparisons been considered across groups of differing composition, this would have constituted a major distorting factor in the results. For the purpose of enhancing an understanding of the impact of the development centre, it would be useful for future research to focus on random group selection across all racial groups. However, Hardyck and Petrinovich (1975) stress that the field study is seldom as concerned with representatives in its sampling as the survey. The emphasis is usually more on obtaining a detailed picture of the process and interactions of a given group of individuals, without being overly concerned about generalising the results to a larger population.

Due to the fact that the groups were not of equal composition and therefore started from different starting points, the researcher was unable to consider the comparisons of

T1 and T3,
 T2 and T4,
 T5 and T6,
 T3 and T5, and
 T1 and T6,

as this would have led to spurious findings in the present study due to the confounding effect of the group composition.

Group 2 scored a higher mean in the pre-evaluations than Group 1. This could be attributed to the majority of white males in the composition of Group 2. The composition of Group 1 was of all racial groups and both genders, while Group 2 consisted of 83% white males. Due to the South African history of favouring this group, these results are clearly understandable (e.g. higher level of education, job reservation, exposure to broader range of opportunities, etc.).

Selection is a threat to internal validity. Without Group 3 and Group 4, there is no formal means of certifying that the groups would have been equivalent, had it not been for X. T1 and T3 differ due to the differential selection (recruitment) of participants making up the groups. Matching on background characteristics is usually ineffective and misleading (Campbell and Stanley, 1963). Organisations will have to deal with different life histories and experiences of the workforce due to its increasing demographic heterogeneity (Buono, 1994). There will occasionally be an apparently "significant" difference between the pre-test scores.

A second limitation to be considered in the present study relates to the nature of the criterion measure for job performance. It is difficult to verify that the criterion is unbiased. This difficulty is frequently associated with validation studies (Cascio, 1991). The criterion data in the present study may reflect errors accompanying criterion contamination as a result of judgmental rating biases such as leniency, severity, central tendency, the halo effect or racial bias in respect of group membership. However, to minimise these effects, this study adopted a multiple-level strategy due to the use of subjective dimension ratings as criterion measures. Self-assessment, superior assessment and assessment by peers were included in the study as recommended by Latham & Wexley (1981). Future research should include subordinate appraisal as this will most certainly enrich the data. Upward appraisal may offer a number of benefits, including improved managerial effectiveness and a participative management style.

"Subordinates are often in closer contact with their manager than is the manager's superior and are in a good position to observe and more accurately relate how the manager reacts" (Redman & Snape, 1992). Subordinates' observations of managerial performance come from the receiving end of many managerial practices and this may give them greater validity and provide valuable insights. It is the acid test of empowering employees and may increase employee commitment to the organisation by increasing their active involvement.

In this study the researcher experienced resistance from managers with regard to the use of subordinate ratings. It was felt that the organisational culture / climate was not conducive to this approach.

A third limitation of the study is the design of the questionnaire / evaluation form. Had there been six to seven questions under each managerial dimension the criteria would have been clearly defined and the researcher would have been assured of the correct meaning / usage of the definition. In this way there would have been the assurance that all evaluators were assessing the same behaviour. The research data would have been enriched by this clarity.

Permission was not given to redesign the evaluation form, as this particular form had been in use since the inception of the development centre. It was hoped that the peer rating would to some extent counteract this problem.

7.4 RECOMMENDATIONS FOR FURTHER RESEARCH

The most recent development centre has attracted little empirical research, other than some process descriptions in scientific journals. Although anecdotal evidence regarding benefits and impacts has been published, to the knowledge of the researcher, no formal evaluations have dealt with the behavioural impact of the development centre on "on- the-job" performance. Woodruffe (1990) states as follows: "The most obvious current development is the change of emphasis to assessment centres being something done with participants rather than done to them. The new emphasis is on participants and assessors collaborating."

The research focus has remained on the centre used for selection whilst methodology has developed to the collaborative development centre (Dulewicz, 1991; Fischer, 1992). More empirical research is needed to focus on the development trend.

With regard to recommendations specific to this study, the first issue to comment on would be the importance of randomisation of the groups. In this way, the different group compositions would not “cloud” the results, more comparisons would have been feasible and the evidence of the impact of the development centre would not be distorted in any way.

Secondly, to address the issue of criterion contamination, it would be beneficial to include subordinate ratings. Certain dimensions of managerial performance that are visible to employees, for example, interpersonal dimensions such as leadership, delegation and communication, are suitable for subordinate ratings.

Thirdly, in preference to the three-point Likert-type scale, behaviourally anchored rating scales (BARS) or behaviour observation scales (BOS) would be more suitable. These judgmental scales would define the rating points in terms of observable and well-researched job behaviours (Gatewood & Field, 1990). The BARS would then serve as an aid around which the feedback and development recommendations are structured (Engelbrecht & Fischer, 1995).

Other recommendations are as follows:

- It is necessary to determine the generalisation from this study to development centres in other organisations.
- It would be beneficial to specify which dimensions (criteria) are most prone to development, as this would assist the practitioners working in this field.
- Future studies could utilise more sophisticated statistical techniques.
- Future research could investigate more senior levels of management (middle and top management). Dealing with ambiguity and uncertainty, transformational leadership, values and attitudes, and the ability to learn from chaotic situations, are some of the abstract dimensions important to executive effectiveness. These job characteristics need to be assessed in relation to their development potential.

- Research emphasis should also be placed on post- centre activities. After the centre and with subsequent feedback, a variety of “on-the-job” activities takes place that influence the transfer of skills and ultimately managerial job performance (Fischer, 1992). The influence and nature of these activities, for example mentorship and coaching, need to be further investigated.
- Cost benefit or utility analysis could help to determine the commercial value of the development centre as a development intervention.

7.5 CONCLUSION

The purpose of the present study was to evaluate the impact of a development centre on managerial performance. The focus was on the third level of Kirkpatrick’s model - the behavioural performance on the job. Managerial performance was evaluated by measuring the pre- and post-performance in ten dimensions. The results indicated that there was an improvement in managerial performance after having attended the centre. Consequently, it was concluded that in support of the general hypothesis posed, the development centre contributes to an increase in managerial performance as measured in ten critical dimensions. Furthermore, the findings are consistent with the results of similar studies (Fischer, 1992; Fleenor, 1988).

The development of management is a critical success factor of any organisation. Companies urgently have to respond to the human resource gap and develop future managers drawn from socially, politically and economically disadvantaged groups. Long-term methods of management development are not relevant in the South African context.

This study provided further evidence on the behavioural impact of the development centre methodology and its relevance in South Africa today.

It is concluded that the task of South African practitioners and industrial psychologists is to clarify and enhance an understanding of management development and accumulate evidence to support innovations that address this issue.

APPENDIX A

DEFINITIONS OF THE CRITICAL DIMENSIONS

The following are the definitions of the dimensions:

SELF DEVELOPMENT is the extent to which a participant actively attempts to expand his or her own knowledge and skills to prepare for a higher position.

INITIATIVE is the ability spontaneously to reveal new thoughts/ideas/approaches and to try in an active manner to bring about change in an innovative manner, rather than to accept matters passively.

FACT FINDING is the ability to gain important information by asking questions, to listen and to delay decision making until all relevant facts, opinions and feelings have systematically been gathered. It includes the ability to distance oneself from the standard way of doing things to obtain a general impression of opportunities and problems.

JUDGEMENT is the ability to come to logical and realistic conclusions based on facts that will lead to positive results for both people and task.

INDIVIDUAL LEADERSHIP is the ability to utilise an effective interpersonal style to direct or lead individuals to the completion of tasks / solving of problems.

GROUP LEADERSHIP is the ability to utilise an effective interpersonal style to lead a group with a common goal or problem to the achieving / solving thereof. Group cohesion and co-operation are maintained and facilitated.

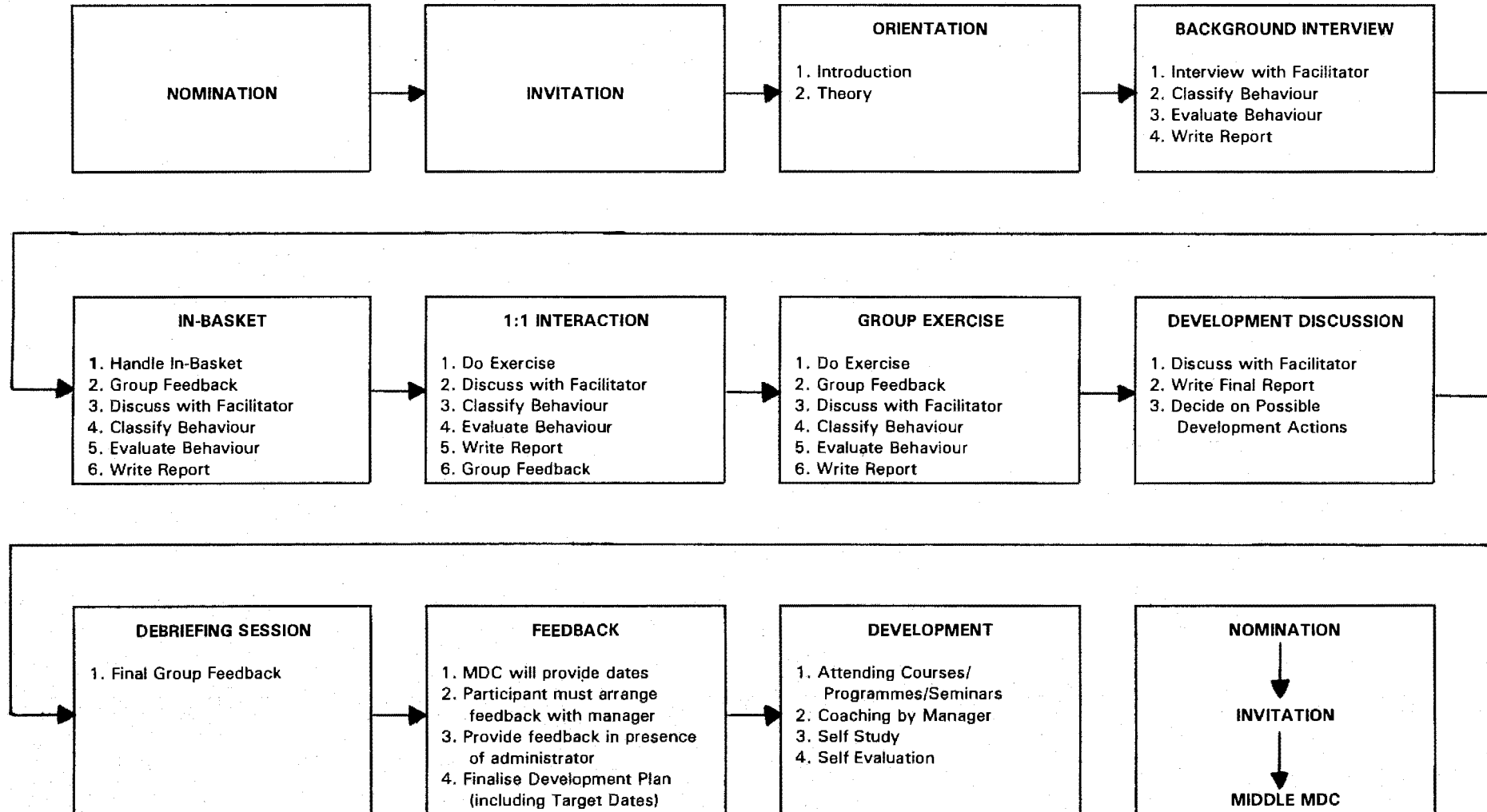
DELEGATION is the ability effectively to utilise subordinates by granting decision-making and other responsibilities to the person most suited for the task. It also includes the ability to direct and describe/define the required behaviour.

VERBAL COMMUNICATION is the ability to deliver a message in a clear, concise, enthusiastic, relaxed open and self-confident manner. It improves interaction by effectively reacting upon the inputs of others. Verbal communication also involves reacting quickly and logically during resistance.

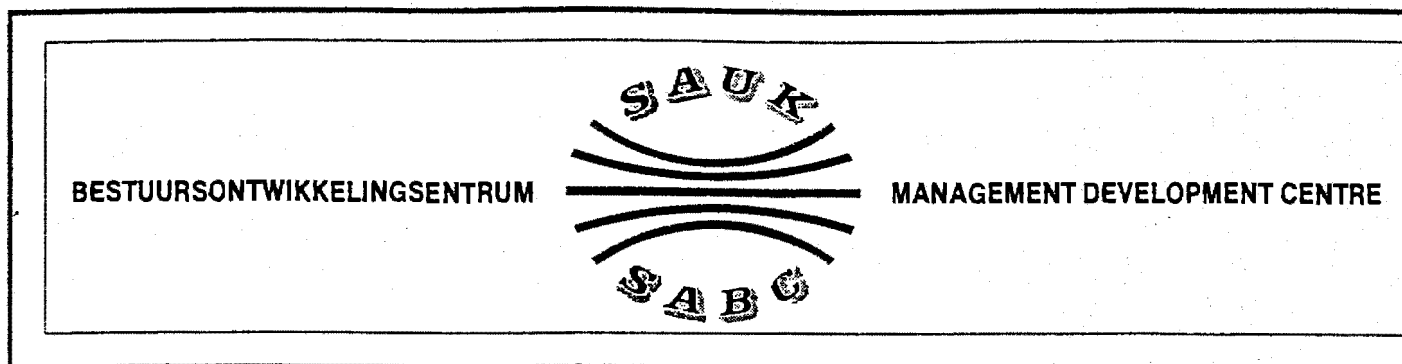
WRITTEN COMMUNICATION is the ability to clearly convey a message in written form.

PLANNING, ORGANISING, CO-ORDINATING AND CONTROLLING is the ability to formulate clear goals, compile action plans, mobilise the necessary means and to co-ordinate and control resulting activities.

DIAGRAM OF THE PROCESS OF THE JUNIOR MDC



APPENDIX C

JUNIOR MDCPRE-EVALUATION FORM

NAME: _____

The Junior MDC assesses the extent to which a supervisor/first line manager conforms to 10 critical managerial dimensions. Indicate the extent to which you feel you conform / comply to these dimensions by circling the most applicable rating on the accompanying scale.

1. Self-Development

The extent to which a participant actively attempts to expand his / her own knowledge and skills to prepare for a higher post.

1	2	3
Development Area	Acceptable	More than Acceptable

2. **Initiative**

The ability to produce new thoughts / ideas / approaches spontaneously and to make an active attempt to bring about change in an innovative manner, instead of accepting things passively.

1	2	3
Development Area	Acceptable	More than Acceptable

3. **Fact Finding**

The ability to get important information by asking questions, to listen, and to delay decision making until all the relevant facts, opinions and feelings have been gathered systematically. This includes the ability to distance yourself from the standard way of doing things, in order to get a general impression of the opportunities and problems.

1	2	3
Development Area	Acceptable	More than Acceptable

4. **Judgement**

The ability to come to logical and realistic conclusions based on facts, which would have positive results for the people and the job.

1	2	3
Development Area	Acceptable	More than Acceptable

5. **Individual leadership**

The ability to adopt an effective interpersonal style in directing or leading people to the completion of tasks / solving of problems.

1	2	3
Development Area	Acceptable	More than Acceptable

6. **Group Leadership**

The ability to adopt an effective interpersonal style in leading a group with a common goal or problem to its attainment / resolution thereof. Group cohesion and co-operation should be maintained and facilitated.

1	2	3
Development Area	Acceptable	More than Acceptable

7. **Delegation**

The ability to utilise subordinates effectively by delegating decision making and other responsibilities to the person best suited to the task. This also includes the ability to direct and describe/define the required behaviour.

1	2	3
Development Area	Acceptable	More than Acceptable

8. **Verbal Communication**

The ability to deliver a message in a clear, concise, enthusiastic, relaxed, open and self-confident manner; to improve interaction by responding effectively to inputs from others; to react quickly and logically to resistance.

1	2	3
Development Area	Acceptable	More than Acceptable

9. **Written communication**

The ability to convey a message clearly in writing.

1	2	3
Development Area	Acceptable	More than Acceptable

10. **Planning, Organisation, Co-ordination and Control**

The ability to formulate clear goals, compile action plans, mobilise the necessary means, and co-ordinate and control consequent activities.

1	2	3
Development Area	Acceptable	More than Acceptable

APPENDIX D

The SABC has approved that Ms. Lin Tucker can do her research at the Management Development Centre in order to complete her masters degree. In order to complete her research for her dissertation, it is necessary to obtain an evaluation of people on supervisory levels in the organisation.

To improve the validity of the evaluation the study requires 3 evaluations of the incumbent:

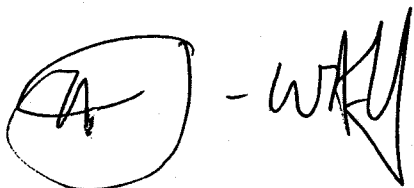
- A self evaluation from the incumbent
- An evaluation from a peer or colleague of the incumbent
- An evaluation from yourself (superior) of the incumbent

The evaluation forms must be clearly marked as to who the evaluation is on and whether it is a self evaluation, peer evaluation or superior evaluation.

Should you have any queries kindly contact Ms. Tucker on 489-9600 or cell 0824909186. Kindly return the 3 evaluation forms to the Management Development Centre: **Attention: Johan van der Walt, Radio Park, room 2609 before 30 September 1996.**

Your assistance in this regard is highly appreciated.

Kind regards

A handwritten signature in black ink, appearing to read 'J - WALT', enclosed within a hand-drawn oval.

JOHAN VAN DER WALT
MANAGEMENT DEVELOPMENT CENTRE

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